Evaluating Lean in Healthcare

(Volume I of II)

by

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[1] Source: http://www.strategosinc.com/lean_manufacturing_history.htm, accessed 26th April 2010.

[2] http://www2.toyota.co.jp/en/vision/production_system/index.html accessed 17/12/09

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Publications

Journal Articles:

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Burgess, N. (2011) 'A Lean Presence', Lean Management Journal, February, pp. 26-29.

Radnor, Z., Davies, R. and Burgess, N. (2009) How much Lean are English Hospitals implementing? National Health Executive, pp. 60-62.

Conference Papers

Burgess, N., Furnival, J., Radnor, Z., Doherty, L., Schenck, A. (2012) 'Bolton Improving Care System: A framework for systemic Lean implementation at Bolton NHS Foundation Trust', Eco-System for Sustainable Healthcare: An International Exploration, Working conference, May 13th – 15th, Como, Italy.

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Burgess, N., and Radnor, Z. (2011) 'Implementing Change in Healthcare: Moving from Pragmatism to Transition', IRSPM 15 2011: Value Innovation and Partnership. Trinity College, Dublin, 2011.

Burgess, N. and Radnor, Z. (2010) 'Lean Paradox: Lean paradox: can lean influence healthcare? 17th International Annual EurOMA Conference: Managing Operations in Service Economies. Porto, Portugal, 2010.

Burgess, N. and Radnor Z. (2010) 'Lean implementation in healthcare: complexities and tensions'. The 14th Annual International Research Society for Public Management (IRSPM) Conference - The Crisis: Challenges for Public Management. Berne, Switzerland, 2010.

Burgess, N. (2010) 'How is lean being applied to health? Classifying approaches to lean implementation in the NHS' The 14th Annual International Research Society for Public Management (IRSPM) Conference - The Crisis: Challenges for Public Management. Berne, Switzerland, 2010.

Burgess, N., Radnor, Z. and Davies, R. (2009) ‘Taxonomy of Lean in health care: a framework for evaluating activity and impact’. 16th International Annual EurOMA Conference. Göteborg, Sweden, 2009.

Abstract

The overarching aim of this thesis is to evaluate Lean implementation in the English NHS. Against a background of financial austerity measures and the ostensible widespread adoption of Lean in the UK public sector, and particularly by healthcare organisations, the objective is to understand how Lean is being implemented by NHS hospital Trusts, and whether there is any quantitative evidence that Lean implementation is improving hospital performance. Adopting Pettigrew and Whipp's (1991) framework of strategic change, this thesis aims to present theoretically sound and practically useful research through an exploration of the context, process and content of Lean implementation by English hospital Trusts. In order to achieve this, the research employs a mixed methods research design incorporating document analysis[3], quantitative analysis and case study analysis to afford an insight into the implementation of Lean from multiple viewpoints and facilitate the development of new insights relating to the phenomena of Lean implementation in English hospital Trusts.

The research provides a contribution to knowledge in three key areas: firstly through the identification and validation of a typology of approaches to Lean implementation by English hospital Trusts i.e. a characterisation of the method of Lean implementation; secondly through quantitative analysis and discussion of the potential link between Lean implementation and increased performance; and thirdly a set of propositions that provide a narrative and logic to explain the influence of contextual factors upon the process of Lean implementation in English hospitals.

[3] The author has adopted the term 'document analysis' to refer to the research method 'content analysis' in order to differentiate the research method from the 'content' dimension of Pettigew and Whipp's (1991) framework of strategic change. Both 'document analysis' and 'content' (meaning the 'what' of change) are terms that are used frequently throughout the thesis.

Chapter 1: Lean and the NHS

1.0 Background: Lean and the English NHS

Due to the challenging economic conditions in the UK, the need for efficiency savings in the NHS alongside other public services are now greater than ever (Operating Framework for the NHS 2010/11). Reports highlighting the need for efficiency savings in the public sector such as the Government's *Independent Review of Public Sector Efficiency* (Gershon, 2004) have been identified as key drivers of Lean implementation in the public sector as a whole (Radnor, 2010a). The Operational Efficiency Programme report (Treasury, 2009) highlights the success of the efficiency agenda in delivering £26.5 billion pounds of efficiencies against a target of £21.5 billion set by the Gershon (2004) review. The OEP (Treasury, 2009) is explicit in its recommendation of the use of continuous improvement methods such as Lean, systematically throughout the public sector, commending the approach as 'effective, sustainable and comparably inexpensive' (p.83). Today, a continued emphasis upon 'efficiency' is evidenced through the coalition government's declaration that the NHS is to operate in the context of 'severe constraint on spending' coupled with the requirement of the NHS to deliver £10bn of savings by 2012/13 (NHS Operating Framework, 2010/11:1).

Against this background, there is growing evidence that Lean is becoming progressively widespread. A recent literature review of 'Business Process Improvement Methodologies' carried out on behalf of the National Audit Office (Radnor, 2010a), finds that 51% of the publications sourced focus on 'Lean' and 35% of those were in the Health Services. Further evidence of the prevalence of Lean implementation in healthcare is proffered by a sudden and sharp rise of reports in the academic and practitioner literature (Brandao de Souza, 2009) and 'grey literature' (Young and McClean, 2008). Historically however, the success rate of transformation is poor (Kotter, 1995; Lucey et al, 2005); Bhasin asserts that less than 10% of Lean implementations in UK organisations are thought to have been successful.

In healthcare there is significant evidence that Lean is becoming widespread, however many authors regard this implementation as pragmatic and disjointed (Proudlove et al, 2008; Young and McClean, 2008). This perceived pragmatic and fragmented approach resonates with a similar trajectory of Lean implementation in other sectors (Hines et al, 2004). However, there appears to be a dearth of empirical literature to evidence *how* Lean implementation is operationalized in healthcare besides a few isolated case studies that often describe a successful, but isolated project (see for example: Lodge and Bamford, 2008; Wojtys et al, 2009; Grove et al, 2010). Aside from these isolated case studies there is also a lack of evidence that supports the view that Lean can work in a hospital context and improve organisational performance (Young and McClean, 2008; Holden, 2011).

This research adopts Pettigrew and Whipp's (1991) framework of strategic change in order to explore and evaluate the phenomena of Lean and its implementation in a healthcare context, specifically English hospitals.

1.1 Genesis of Research

The genesis for this research is borne out of a desire to empirically evaluate the implementation of Lean in the NHS to provide a more detailed explanation of why Lean implementation has been inconsistent (Boyle et al, 2011) and provide a narrative and logic for understanding the process of Lean implementation in English hospitals. Historically, Lean as derived from the Toyota Production System (TPS) has been poorly understood. Described by Taiichi Ohno (1988) as a 'management system', many authors purport that organisations in the West fail in their implementation as they often try to copy the hard side (manufacturing excellence) with disregard for the soft (cultural) aspects of Lean (see for example Bhasin, 2008; Emiliani, 2008; Holweg, 2007; Schönberger, 2007; Womack and Jones, 2006; Liker, 2006; Roth 2006, Spear, 2004).

1.1.1 Background to Lean

The first published use of the term Lean was in 1988 by John Krafcik to describe observations by a team of researchers as part of the International Motor Vehicle Program (IMVP). The IMVP was established in America to investigate the reasons why Japan was outperforming the West in terms of quality. The observations and effects of Toyota's methods in terms of superior performance gained were recounted by IMVP researchers John Krafcik (Krafcik, 1988) and Michael Cusamano (Cusamano, 1988) and acquired worldwide attention in 1990 through the book 'The Machine that Changed the World' by James P. Womack, Daniel Jones and Daniel Roos (1990). Reflecting on the success of the book, Holweg (2007) explains that the book and the research reported in Krafcik (1988) and Cusumano (1988) finally blew the myth that the superior performance of Japanese production was intrinsically related to Japanese culture.

The success of *The Machine...* was followed in 1996 and 2003 by *Lean Thinking: Banish Waste and Create Wealth in Your Corporation* by James P. Womack and Daniel T. Jones. The book proposed: *"a sort of North Star… a dependable guide to action to help managers transcend the day to-day chaos of mass production'* (Womack and Jones, 2003:10)*"*. The authors outline five principles of Lean, which some consider to be the most widely cited in the academic literature (Radnor, 2010a). The authors also assert that through understanding these principles and tying them all together, organisations can stay on course towards Lean operations. Despite this however, many commentators continue to refer to Lean as 'mysterious' (Osono, 2008; Taylor and Taylor, 2009), defying codification (Seddon et al, 2009).

1.1.2 Overarching Aim

The overarching aim of this thesis is to evaluate Lean implementation in the English NHS. The objective is to understand *how* Lean is implemented by English hospitals, explore the impact of Lean implementation upon performance and understand the influence of context upon the implementation of Lean in healthcare context. It is anticipated that this research will help to develop a

narrative and logic for understanding the implementation of Lean in healthcare, and provide an explanation for the variation in successful Lean implementation amongst hospital trusts.

1.2 Overview of the Thesis

The thesis begins with an exploration of Lean (chapter two) that charts the phenomena from its origins at Toyota Motor Corporation in Japan in the 1950's and its transfer to the West during the 1970's onwards; the objective is to build a clear understanding of 'what is Lean' (part one), prior to consideration of how it has been applied in public sector organisations and specifically in healthcare (part two), in order to shape and guide the thesis. Part three of chapter two concludes with a summary of the research gaps leading to a statement of the research questions that will guide the thesis towards its overarching objective: to evaluate Lean implementation in the English NHS.

Chapter three outlines the knowledge paradigm debate and the researcher's adoption of a constructivist knowledge paradigm (part 1). The chapter also outlines a mixed method research strategy as appropriate for addressing the research questions explaining in detail the methods employed. The benefit of using a mixed method research design is in overcoming the biases and limitations of any single method (Creswell, 2009). However this research aligns with the premise that a mixed methods approach goes beyond the initial goal of triangulation (confirmation of results using different methods or data sets), in actually using multiple methods to also gain a better understanding (comprehension) of results, discover new perspectives, or develop new measurement tools (Tashakkori and Teddlie, 1998). The explicit research design is detailed in chapter 3 (part 2) and includes document analysis, non-parametric testing of hypotheses and case study analysis.

Chapters four, five and six present the findings from document analysis, non-parametric testing and case study analysis respectively followed by a discussion of the findings in chapter seven. Chapter seven blends together analysis from the mixed methods approaches to discuss the findings in relation to the research

questions; the chapter concludes with a set of research propositions that the researcher believes will provide a first step towards a narrative and logic for understanding how contextual factors influence the implementation of Lean in healthcare organisations. Chapter eight concludes the thesis with an overview of the research findings, a discussion of the limitations of the research and implications for research and practice.

The structure of the thesis is summarised in Table 1.1.

Table 1.1 Structure of Thesis

Chapter 1: Introduction	Provides a background to Lean in the NHS and a background to the origins of Lean in manufacturing; also introduces the genesis for the research and a description of the document structure.
Chapter 2: Exploring Lean	Provides a review of relevant literature across three parts: part one is based on deciphering 'what is lean'; and part two considers how Lean applies to the public sector and, specifically how has it been applied in healthcare; part three summarises the extant literature discussed in parts one and two to establish the research questions that guide this research.
Chapter 3: Knowledge Paradigms and Research Communities	Discusses competing research paradigms and details the approach taken to the research, identifying a mixed methods research strategy and detailing their operationalization.
Chapter 4: Document analysis	Presents the findings of document analysis.
Chapter 5: Quantitative analysis	Presents the findings of quantitative analysis.
Chapter 6: Case Study Analysis	Presents the findings of four case studies.
Chapter 7: Evaluating Lean implementation in the English NHS – Discussion of findings	Combines the findings from the mixed methods approach to data collection, (document analysis, quantitative analysis and case study analysis) and discuss them in the light of emergent patterns and themes, relating these findings back to the literature presented in Chapter 2, *Exploring Lean*.
Chapter 8: Conclusions	Presents the conclusions of this research study to make clear the overall contribution to knowledge made by this research; to provide a summary of the limitations of this study; and to provide recommendations for future research.

Chapter 2: Exploring Lean

2.0 Chapter summary

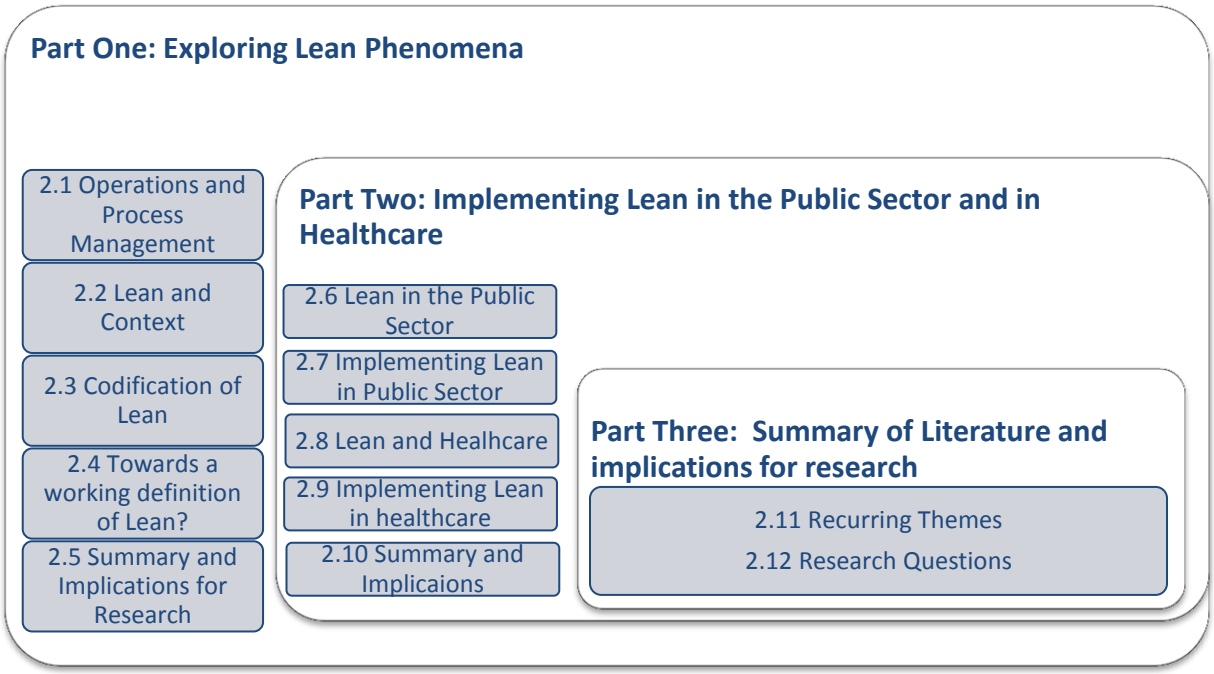
This chapter traces the phenomena of Lean from its origins in the automotive industry in Japan to its translation and adoption in the West. The aim is to provide a review of the literature pertaining to Lean as a concept and its application and implementation in the public sector with a particular emphasis on healthcare. The objective of this chapter is to build a clear understanding of 'what is Lean' prior to consideration of how it has been applied in public sector organisations and specifically healthcare in order to shape and guide the thesis.

The chapter is split into three parts to establish: what is lean (part one); how Lean applies to the public sector and, specifically how has it been applied in healthcare (part two); finally part three summarises the extant literature discussed in parts one and two with a view to highlighting gaps in the extant literature leading to a statement of the research questions.

Part one is organised as follows: section 2.1 begins by outlining the important contribution of Lean to the field of Operations Management, and discusses the similarities and differences between Lean and other approaches to improvement. The second section of part one (section 2.2) takes a historical perspective of the development of Lean in the context of the Toyota Motor Company in Japan during the 1950's. Starting with an overview of the early introduction of how Lean methodology was first introduced and interpreted in the Western world, this section considers the influence of context upon the development of the Toyota Production System (TPS) in Japan. Section two concludes with a representation of Lean as part of evolutionary development in the history of manufacturing practice. The third section of Part one (section 2.3) considers the codification of Lean as represented by Toyota and interpreted by academic observers. Section 2.4 seeks to assemble an overview of Lean, depicting discernible approaches and culminating in an articulation of *what is Lean.* Finally, section 2.5 presents a summary of part one and considers the implications for research.

Part Two considers the universality of Lean, looking at Lean implementation in other sectors and paying particular attention to the context of the Public Sector (section 2.6). The second section of part two (section 2.7) presents examples of the implementation of Lean in the public sector and the third section of part two (section 2.8), looks specifically at Lean implementation in healthcare. Section 2.8 highlights the nature of this literature as predominantly anecdotal, presenting isolated examples of the application of Lean tools and methods rather than demonstrating how Lean can be applied to processes across the whole organisation. In view of this limitation, section 2.9 develops a focus upon three prominent examples of hospitals implementing Lean across their organisations as examples of how Lean can be implemented across a whole hospital. To conclude, part three summarises parts one and two with respect to the gaps in literature as revealed by the literature review and presents the research questions. Figure 2.1 presents an outline of the structure of the literature review chapter.

Figure 2.1: Structure of the literature review chapter: Exploring Lean



Part One: Exploring Lean Phenomena

2.1 Operations and Process Management Perspective

The concept of operations management has been described as being *'about the way organisations produce goods and services'* (Slack et al, 2001:3). The concept has recently been expanded from 'operations management' to 'operations and process management' to denote the extension of the subject to the whole organisation, to include processes that are non-operations functions such as finance, purchasing and after sales (Slack et al, 2006). Operations and process management is central to all sectors: manufacturing, service, private, public and the voluntary sector all produce goods and/or services. In this vein, all organisations can be conceptualised as a transformation process whereby operations and processes take in a set of resources which are then used to transform something into outputs or goods or services to satisfy customer needs. In brief, the fundamental principle of OM is to ensure that the organisation has sufficient input resources to meet the level of demand today, tomorrow and in the future, and to identify areas of service improvement (Nwabueze, 2000; Slack et al, 2006; Slack and Lewis, 2008).

2.1.1 A Process Perspective

Organisations are made up of a set of processes, which represent smaller operations (Slack et al 2006). A process refers to a linked set of activities that have a specific ordering of work and space, with a beginning and an end, and clearly defined inputs and outputs (Davenport, 1993). Processes can traverse and interlock with other sub processes, or form the beginning/end of another process. Taking a process perspective thereby implies adopting the customer's point of view (Davenport, 1993). McNulty (2003) explains: *"a process perspective is more concerned with value creation rather than merely control of the value creation process"* (p.2).

Adam Smith is credited with the first conceptualisation of a business process in his famous (1776) example of a pin factory (Wikepedia[4]). Smith describes the making of a pin as a set of activities that collectively make up a process. The entire process to create a pin can be conducted by one person from end to end or divided into specialist tasks and undertaken by a number of people or latterly, by machines. Ultimately, the design of a process is critical to ensure that the operation has the capability of creating the product or service the organisation sets out to achieve. Furthermore, the design of processes directly influences the operations performance objectives of speed, quality, cost, flexibility and dependability to produce an outcome of customer satisfaction (Slack et al, 2006).

In service delivery in particular, the so called 'missing product phenomenon' (Gronroos, 2000) means that quality and thereby satisfaction is determined solely by the effectiveness of the process (Osbourne, 2010). Despite this notion, and despite the customer orientation of the process perspective, Denison (1997:7) argues that the 'process perspective' is contrary to the traditional principles of functional organising that have been adhered to for *'almost a century'*, (McNulty, 2003 and McNulty and Ferlie, 2004). This functional perspective and its limitations and consequences for our early understanding of Japanese management practices are exemplified in the following excerpt from Taylor and Taylor (2008) citing Schonberger (2007):

> *"Schönberger notes the irony of the "planeloads of study missions" to Japan in the 1980s to examine firsthand the Japanese Management practices [JMP], but instead of "seeing" JMP as a holistic concept consisting of a mutually reinforcing set of best practices, most Western observers were blinded by their operations management (OM) mind-set of functional separation and silo mentality. Thus, what they observed led to three, largely separate, strains of JMP centring upon employee involvement, quality and lean production, respectively."*
>
> (Taylor and Taylor, 2008:481)

[4] http://en.wikipedia.org/wiki/Business_process accessed 22/4/2010

2.1.2 The contribution of Lean to Operations Management

Slack et al, (2006) hail Lean as the most important contribution to operations management in over 50 years. The contribution of Lean to operations management is encapsulated in Slack and Lewis (2008), where the authors explain how prior to the emergence of Lean, operations management was a relatively loose collection of ideas from the scientific management era; what Lean achieved was an understanding of how: *"inventory, throughput time, value-added, waste elimination, utilisation and flexibility all related to each other"* (p.277).

The term Lean production was arrived at through the initial observations by John Krafcik to describe the operation at Toyota Motor Company:

> *'It uses less of everything… half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering hours to develop a product in half the time. Also it requires keeping far less of half the needed inventory on site, results in many fewer defects and produces a greater and ever growing variety of products.'* (Womack et al, 1990:13)

2.1.3 From Mass Production to Lean Production

Lean can be viewed as an alternative method to mass production and batch processing. Where mass production is geared towards large scale production ahead of customer demand in order to keep unit costs low and productivity high, the starting point of Lean is to minimise batch size as far as possible (Oliver, 2008). Lean is geared towards continuous one-piece-flow production to keep production in pace with demand, thereby achieving the twin objectives of low unit costs and high quality levels. Thus the principles of Lean run counter to the principles of traditional manufacturing and echo the principles of craft manufacture where production will only commence when an order has been received (Oliver, 2008; Dahlgaard and Dahlgaard-Park, 2006; Holweg, 2007). Table 2.1 demonstrates the contrasting perspectives of traditional manufacturing and Lean, referred to in Oliver (2008) as 'old' and 'new' orthodoxies respectively.

Table 2.1: Contrasting perspectives of old and new orthodoxies adapted from Oliver, (2008)

	'Old' Management Orthodoxy	'New management orthodoxy
Batch size	Large batches minimise unit costs	Small batches minimise costs
Stock	Necessary as insurance against uncertainty	Hides problems, thereby impeding improvement
Cost of quality	High quality costs more	High quality reduces costs by eliminating waste
Emphasis in quality management	Error detection and correction	Error prevention via process control
Production emphasis	Minimise local costs and accept imbalances at system level	Maximise flow through whole system and accept inefficiencies at local level

2.1.4 From Push to Pull – towards an elimination of inventory

Mass production is a high volume form of batch production. Batched production is often used when there is some known and reasonably predictable variety in a process (Slack et al, 2006). Batching will only allow work to proceed to the next step when the entire batch has been processed, thus a considerable amount of waiting occurs in a batch processing system leading to poor cycle and throughput times. Swank (2003:3) describes the impact of batching in a service operation:

"At any given time, most of a batch in a traditional system is sitting waiting to be processed—in other words, it is costly excess inventory. And errors cannot be caught or addressed quickly, because if they occur, they tend to occur on a large scale."

A batching process, like mass production is a form of 'push' control where inputs are moved to the next stage of the transformation process regardless of whether a demand for that input exists. Thus whether a process is designed to manufacture cars in an assembly plant, process a benefits claim form in local government or treat patients in a hospital, a push process will nearly always create high levels of Work in Progress (WIP) and thus inventory (e.g. in the form of component parts, forms or people) is amassed in storage areas waiting to be processed (Swank,

2003). In a manufacturing environment, the elimination of inventory means that there are no buffers between the stages in a process and thereby should an error occur the whole process stops immediately. This has the benefit of forcing employees to address the problem immediately and reducing the risk that a defect will reach the customer (Slack et al, 2006). Dahlgaard and Dahlgaard-Park (2006) consider this a calculated move by Toyota's chief engineer Taichi Ohno: *"He wanted that every member of the entire production system paid attention to the prevention of potential problems and in this way reduced muda"* (Dahlgaard and Dahlgaard-Park, 2006:265). The emphasis of the Toyota Production System is thought by many to focus upon eliminating non-value adding activities known collectively as 'waste' or 'muda,' in order to increase the percentage of value-added activity in any process (Hines et al, 2004). Thus Lean is essentially about improving the quality of the process through the elimination of waste.

2.1.5 Understanding Waste

The elimination of all waste was strongly advocated by Industrial Engineers Shigeo Shingo and Taichi Ohno. In particular, Shingo is particularly renowned for his depiction of waste, defining waste as 'any activity that does not contribute to operations, such as waiting, accumulating semi-processed parts, reloading, passing materials from one hand to the other and the like…' to which the author adds: "without work improvements, however, they cannot be eliminated entirely' (Shingo, 1989:76). Thus, affirming the necessity of understanding the process in order to remove waste combined with recognition that this is a continuous process. Shingo goes further in his definition of waste through the identification of seven wastes typically found in manufacturing that should be eliminated (Shingo, 1989:191), alongside a brief description.

1. Over-production – producing more than is required by the customer;
2. Delay – any kind of 'waiting' impedes the flow of the product to the end customer;
3. Transport – movement from one place to another that does not add any value to the customer;

4. Over - Processing – more work is done to a product/process than is required by the customer;
5. Inventory – presents a capital expenditure which has not yet produced any income;
6. Wasted motions – refers to the motions of the workers and equipment, excess motion wastes time and can cause injury/damage;
7. Defects – when defects occur, extra costs and delays ensue.

Hines et al (2008) present a further conceptualisation of waste as falling into three categories: muda (the seven wastes identified by Shingo, 1989), mura (waste from variability of demand) and muri (waste from over-burden). The authors argue that organisations that implement, but often fail to sustain Lean systems, usually only concentrate on muda.

2.1.6 The many tools of Lean

There are a multitude of 'tools' that are associated with Lean. Whilst many commentators caution that Lean should not be seen as a set of tools (Bhasin, 2008; Emmiliani, 2008; Schönberger, 2007; Holweg, 2007; Womack and Jones, 2006; Liker, 2006; Roth 2006; Spear 2004), tools do have a place in helping us to identify waste and assess whether and how it can be eliminated when they are used correctly and built on strong foundations that consist of leadership, alignment with strategy, learning and training, and engagement of staff (Bicheno, 2004; Hines et al, 2008; Radnor 2010b). In linking Lean tools to the five principles of Lean proposed by Womack and Jones (2006), Bicheno (2004) differentiates between tools that identify 'value', tools that prepare for 'flow', tools for mapping and analysis, tools for ensuring quality (reducing defects) and tools continuous improvement. Table 2.2 lists some of the most commonly cited tools with a brief description of their use.

Table 2.2: Some common tools associated with Lean

Tools for identifying value	
Kano model	A method for identifying 'basic' factors (what the customer expects to be there – eg. clean sheets in a hotel), 'performance' factors (features such as speed of service delivery or ease of use), and 'delighter' factors, these are what the customer does not expect but their presence causes delight e.g. a bottle of wine awaiting guests in a hotel room (Bicheno, 2004).
Pareto analysis	Pareto analysis uses the Pareto principle which is the idea that 80% of problems are caused by 20% of sources. Pareto analysis is a tool that helps organizations identify and prioritize problem solving.
Tools that prepare for 'flow'	
Takt time	Where the pace of production is set to the pace of demand. For example, if your customer demand is for 7 vehicles per day and you have 7 hours available time then the Takt time is 1 vehicle per hour.
5S	A structured approach to standardisation, akin to 'housekeeping' it has the objective of keeping everything in order to reduce time wasted looking for things and to improve visibility at a glance. 5S consists of: sort, straighten, sweep, standardise and sustain.
Standard Work	All work should be standardized and unambiguous. It is this standardization of work that provides a platform for continuous improvement (Spear and Bowen, 1999)
Total Productive Maintenance (TPM)	TPM goes beyond breakdown maintenance and focuses on prevention of breakdown through predictive and planned maintenance of machinery and equipment to extend the lifetime of equipment and reduce downtime due to machine breakdown and failure.
Changeover reduction	Originates from Shingo's SMED (Single Minute Exchange of Die), the concept refers to the reduction of set up time to the absolute minimum. To quote a popular saying of Shigeo Shingo: "it is only the last turn of the bolt that tightens it – the rest is just movement".
Small machines	The use of small machines usually means the capital outlay is smaller and they are easier to move so that the process layout can be arranged to reduce waste in the form of excess transport.
Demand management	Manipulating demand and managing capacity to

	allow for 'flow' (Bicheno, 2004).
Tools for Mapping and Analysis	
Value Stream Mapping	A value stream is all the actions (both value-added and non-value added) currently required to bring a product to fruition. Helps people look at the bigger picture of material and information flow rather than discrete operations and processes, i.e. it is about *'learning to see'* (Rother and Shook, 2003)
Process Mapping	Focuses on actions at the level of the process.
Spaghetti diagrams	A graphical aid often used to illustrate visually the flow of a product/service, or the walking patterns of workers in a process for example. The resultant graphic often resembles a mass of cooked spaghetti.
Tools for ensuring quality	
Pokayoke	Error-proofing processes so it is near impossible to make a mistake, for example a petrol nozzle that does not fit into a diesel car.
Visual Management	The concept of visual management is to enable anyone in the workplace (even those unfamiliar with the work) to understand the current status of the operation at a glance.
Tools for Improvement	
PDCA	Also known as the Deming cycle, PDCA is an acronym for the continuous improvement cycle of 'plan, do, check, act' where 'plan' refers to understanding the problem, 'do' refers to implementation of a pilot/proposed solution, 'check' means to check (measure) the effectiveness of the piloted solution and 'act' means to implement the solution fully.
Kaizen events/rapid improvement events (RIEs)	Kaizen refers to 'change for the better' based on small incremental improvements over time (Imai, 1983, 1997). A kaizen event or RIE as they are frequently known refers to a short burst of improvement activity usually taking place over 3-5 days with a cross section of worker involved in a particular process.
Root causes	A process for dissolving problems by establishing the 'root cause'. 5 why analysis is a common tool to establish 'root cause' as is the 'Ishikawa' diagram/'fishbone' diagram.

2.1.7 A new management orthodoxy?

Lean has continued to influence the field of operations management since the early 1990's (Taylor and Taylor, 2009; Pilkington and Meredith, 2009). Taylor and Taylor (2008) declare that our understanding of Lean as a form of Japanese

Production Management (JPM) is still evolving despite two decades of enquiry. Conversely, some suggest that the ideas and practices of Lean, once considered radical have now become orthodox (Oliver, 2008; Slack and Lewis, 2008). Outside of manufacturing, the ideas and practices of Lean are still considered new and radical in service industries where Lean is considered to be *'newly fashionable'* (Slack and Lewis, 2008:271).

This view of Lean as manufacturing orthodoxy might be considered contestable given that less than 10% of Lean implementations in UK organisations are thought to have been successful (Bhasin, 2008). Liker (2006) sheds some light on the problem suggesting that while the concept gains acceptance *prima facie*, the implementation of these practices is not actually happening in reality.

"50% of auto suppliers are talking about Lean, 2% are actually doing it"
(Liker, 2006:2, cited in Bhasin, 2008).

2.1.8 Is Lean an improvement fad?

Extending Liker's hypothesis that organisations are talking about Lean but not actually implementing it leads us to consider the possibility that Lean is an improvement fad, soon to be replaced by the next fashionable management idea. Heston and Phifer (2009) consider this a consequence of organisations believing quality approaches to be a 'silver bullet solution' that will 'suddenly solve all its problems' (p.10); thus, when that particular approach does not work the organisation then jumps to the next new idea. To this argument, Näslund (2008) considers *'does it matter?'* (p.274), concluding that such organisations are relearning old lessons, wasting resources and evoking cynicism:

"Organisations chum through one technique after another and at best get incremental improvement on top of business as usual. At worst, these efforts waste resources and evoke cynicism and resignation." (Pascale, 1996 cited in Näslund, 2008)

2.1.9 How does Lean differ from other approaches to improvement?

Some authors refer to the blurring of boundaries between concepts under the quality management umbrella claiming that 'new approaches' are often a blend of an earlier approach (Mugglestone et al 2008; Andersson et al, 2006; Dahlgaard and Dahlgaard-Park, 2006; Slack and Lewis, 2008; Näslund, 2008). To this end, some would argue that there is little novel about Lean methods (Oliver, 2008; Towill, 2009).

Connections between quality approaches and TQM are frequently cited (see Dahlgaard and Dahlgaard-Park (2006); Näslund (2008); Emiliani, (2008)). Several authors note the presence of quality 'gurus' in Japan such as Deming and Juran as a key influence upon the development of the TPS particularly in developing statistical quality control processes (later incorporated in TQM and Six Sigma), suggesting that such approaches share the same DNA (Andersson et al, (2006), Schönberger (2007), Näslund (2008), Seddon et al (2009). Similarly, Towill (2009) asserts that the elimination of waste, a central element of Lean, directly relates to Gilbreth's theory of Method Study.

In their analysis of the similarities and differences between quality improvement concepts such as TQM, six sigma and Lean, Andersson et al (2006) acknowledge that the aims of these concepts are very similar, focusing on minimising waste and resources while improving customer satisfaction and financial results, however the authors conclude that each concept has developed slightly differently. Andersson et al (2006) assert that the link between the origins of six sigma and Lean at successful companies Motorola and Toyota respectively accounts for the spread of these methodologies to other organisations; the lack of origin for the concept of TQM brings its existence into question.

Antony (2010) distinguishes between six sigma and Lean where the former focuses on the use of data to drive solutions, and is particularly useful for addressing poorly performing value adding transformations within the process steps, while the latter is primarily focused on material and information between the process steps.

Despite its commonality with other approaches, Lean is still considered an important research trend in its own right. Taylor and Taylor (2009) used their unique position as Editors of the *International Journal of Operations and Production Management* to analyse the research trends during their tenure, capitalising on the hindsight and findings of similar endeavours in relation to the field (see Pilkington and Meredith, 2009). The authors conclude that 'Lean Systems' continue to emerge as an important research trend but that a theoretical lens should be applied in order to develop further insight into this topic from new perspectives. It is anticipated that an evaluation of Lean implementation in English hospitals will enable identification of new theoretical lenses towards this endeavour.

2.1.10 Summary and Implications for research

This first section places Lean in the context of operations management and immediately underscores the fundamental challenge of changing mindsets from a traditional functionalist view towards a *'process'* mindset when implementing Lean. Section 2.1 thereby outlines the concept of Lean as something that is very different to traditional manufacturing and attempts to show that Lean is an approach towards improving quality through an elimination of waste.

The assertion that less than 10% of organisations are thought to have successfully implemented Lean in UK organisations (Bhasin, 2008) suggests that while there is evidence in the literature of widespread implementation of Lean in healthcare this may not be reflective of actual implementation. In summary, Section 2.1 highlights that a change from a traditional approach to operations management to a Lean approach, is not an easy transition, and that success is variable. Schönberger, (2007) and Taylor and Taylor, (2008) suggest that this may be a reflection of a limited understanding of the TPS as a holistic system approach. Thus, careful attention should be devoted to understanding the concept of Lean. Section 2.2 begins this process with a look at the development of Lean through its origins in the Toyota Motor Company, Japan.

2.2 Exploring the context of Lean

Despite nearly two decades of enquiry, Taylor and Taylor (2008) describe Japanese Manufacturing practices as possessing a *"richness of nuance and complexity that appear to be always just beyond our grasp"* (p.485). A number of authors have sought to identify the success factors and barriers of Lean implementation, for example Alukal (2006) articulates the pivotal role of long term management support, echoed widely in change management literature. Corbett (2007) argues that an understanding of success factors are important in light of the perceived increasing orthodoxy of lean techniques meaning that the implementation of lean will become the distinguishing factor between organisations. Conversely, from a pragmatic standpoint, Taylor and Taylor (2008) deride any attempt to crystallise the 'top ten success factors of Lean' at a local level, rather they assert that the weight of evidence suggests it is the dominance of context that is critical. To this end, section 2.2 of Part 1 explores the context of Lean in detail from its point of origin as the Toyota Production System.

2.2.1 From the Toyota Production System to Lean – a voyage of 'industrial tourism'

Lean is the term used to represent a method of manufacturing observed at the Toyota Motor Corporation in Japan also known as the Toyota Production System (TPS). The first published use of the term Lean was in 1988 by John Krafcik to describe observations by a team of researchers as part of the International Motor Vehicle Program (IMVP). The IMVP was established in America to investigate the reasons why Japan was outperforming the West in terms of quality. The observations and effects of Toyota's methods in terms of superior performance gained were recounted by IMVP researchers John Krafcik (Krafcik, 1988) and Michael Cusamano (1988) and acquired worldwide attention in 1990 through the book 'The Machine that Changed the World' by James P. Womack, Daniel Jones and Daniel Roos (1990). Reflecting on the success of the book, Holweg (2007) explains that the book and the research reported in Krafcik (1988) and Cusumano

(1988) finally blew the myth that the superior performance of Japanese production was intrinsically related to Japanese culture.

Prior to the seminal research of the IMVP there was significant interest in books focusing on Japanese tools and techniques such as JIT as methods of best practice manufacturing strategy (see Monden (1983) and Schönberger (1982) for example), but these had lacked any depth of understanding and insight of the central tenets of the TPS and focussed instead upon tools of best practice (Holweg, 2007). Voss (1995) cautions that a focus on best practice implementation usually results in isolated application as a means to solving the company's problems, questions such as "is this appropriate for us?" and "would adoption support our competitive needs?" often fail to be asked (Voss, 1995, 2005). Correspondingly, the TPS proved hard to imitate through a mere application of tools (Schönberger, 2007).

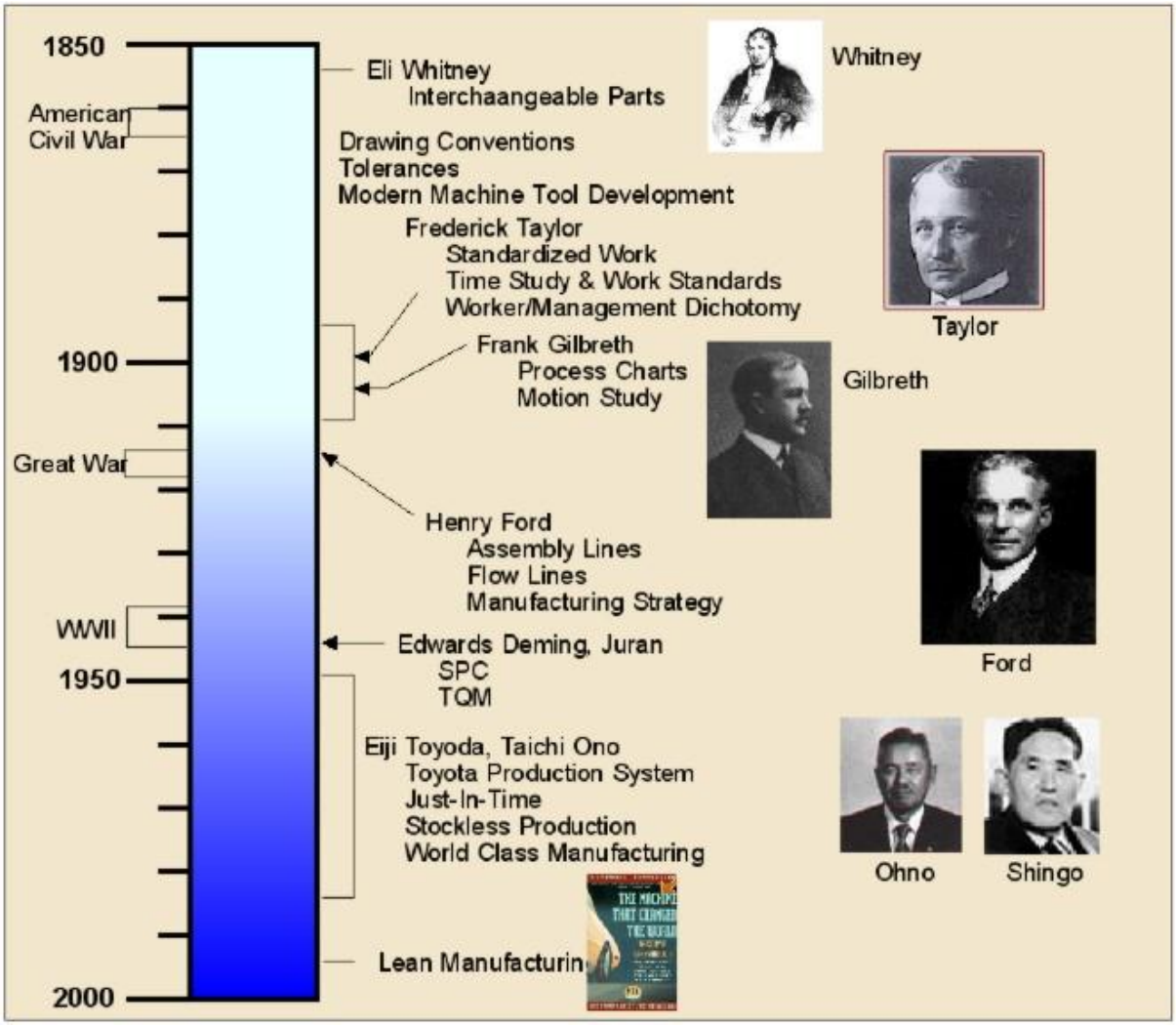
Over the last two decades a wealth of literature has emerged in both academic and practitioner domains describing and evolving our understanding of the TPS and Lean. Some early books prior to *The Machine…* have remained particularly influential (perhaps even *because* of the success of *The Machine.*) For example, a book by Taichi Ohno (1988), widely credited as the creator of the TPS (Toyota Production System), and a book by Shigeo Shingo that defines seven wastes remain influential and insightful texts. Emiliani (2008) reminds us that the authors of these books make prudent attempts to emphasise and caution readers that the nature of the TPS is that of a management system and not a set of tools.

2.2.2 Manufacturing: from craft to science

Some authors proffer a rudimentary synopsis of manufacturing, metamorphosing from craft production (pre 1913), to the emergence of mass manufacturing (1913), and then Lean thinking (see Laursen et al, 2003; Dahlgaard and Dahlgaard-Park, 2006). Other authors offer more detailed accounts of the evolution of early manufacturing methods, citing Adam Smith's (1776) early experimentation with breaking down craft work into simple repetitive tasks to promote greater productivity as an early predecessor to the TPS; Eli Whitney's invention of

interchangeable parts, and the development of 'Whitworth standards' have now become integral components of any manufacturing process. Prior to Joseph Whitworth's (1841) development of standard threads to facilitate the interchangeability of bolts, craftsmen had to create new bolts and threads for each individual production unit - a very costly and very lengthy process. Smith's division of labour into small repetitive tasks and Whitworth's standards were both incorporated into the Ford production system in the 1920's to create a manufacturing system that was heralded as a phenomenon for production output worldwide (Seddon, 2005). An overview of manufacturing history demonstrates that production methods are not single point inventions, they are the accumulation of concepts and ideas over time; moreover, their development is influenced by changes in the operating context. For example, Ford's mass production system was extremely successful until the market needs shifted to require more variety than a production system that was built for stable demand could offer (Cusumano, 1988; Pine and Davis, 1999; Holweg, 2007). Figure 2.2 summarises the evolution of manufacturing and its influences from early craftsmanship to Lean Manufacturing.

Figure 2.2: Historical Timeline of Lean Manufacturing[5].



[5] Source: http://www.strategosinc.com/lean_manufacturing_history.htm, accessed 26th April 2010.

2.2.3 History of the Toyota Production System (TPS)

"The TPS was not a single point invention… [rather] the outcome of a dynamic learning process that adapted practices emanating from the automotive and textile sectors in response to the environmental contingencies in Japan at the time"

(Holweg, 2007:432)

Understanding Toyota's history is considered 'critical' to understanding the development of the TPS writes Cusumano (1988), and this contention is supported by the proliferation of accounts proffered in the majority of the literature surrounding any description of Lean and Lean application (see for example Kunonga et al, 2010; Piercy and Rich, 2009; Holweg, 2007, Cusamano, 1988 amongst many others).

A look at Toyota's history focuses the debate upon the specific circumstances that led Toyota to develop a system that was significantly different from traditional mass production methods. Cusumano's (1988) account considers the impact of a radical change in consumer demand following the Second World War from producing trucks for military use to an emerging passenger car market. During 1932, Toyota had lacked the capital and inclination to indulge in the grandeur style of American mass manufacturing methods and practices unlike its larger rival Nissan. As a small producer with significant quality problems (Cusumano reports that the first truck broke down on the way to the show room), Toyota faced an early crisis as the military would not commit to buying large numbers of trucks from them and thus the company was forced to address quality problems from the outset and set up an inexpensive production system for low volumes. *'In order to solve these problems, Toyota bought universal machine tools and small stamping presses that were affordable and easily adaptable to model changes'* (Cusumano, 1988:34). These tools are considered to have afforded the foundation of the 'flexibility' central to the TPS.

Widely credited as the co-founder of the TPS (alongside Shigeo Shingo), Taiichi Ohno joined the company in 1943 with *'no experience or predilections of automobiles or American methods'* (Cusumano, 1988:34). In a unique fusion of

lessons learned from other industries, in particular Ohno's own experience with the automatic loom in the textile industry and upon studying Ford's mass production line, Ohno's goal became to mimic the continuous flow of products in an affordable manner. Working within the context of severe financial and resource constraints Toyota had neither the capital to invest in expensive machines or additional labour nor the space necessary to hold high levels of inventory; thus all non-value adding activity known collectively as 'waste' had to be eliminated (Ohno, 1988; Cusumano, 1988).

2.2.4 Learning from the West

One thing a number of authors agree on is that the TPS is a hybrid or a 'blend' of best practice strongly influenced by Ford's production system (Holweg, 2007; Cusumano, 1988; Seddon et al, 2009; Ohno, 1988). However, as described in section 2.2.3, the genesis of the Toyota Production System is owed to the specific nature of the Japanese market at the time where resources were scarce, demand was low and thus a mass production system such as Fords was simply not viable.

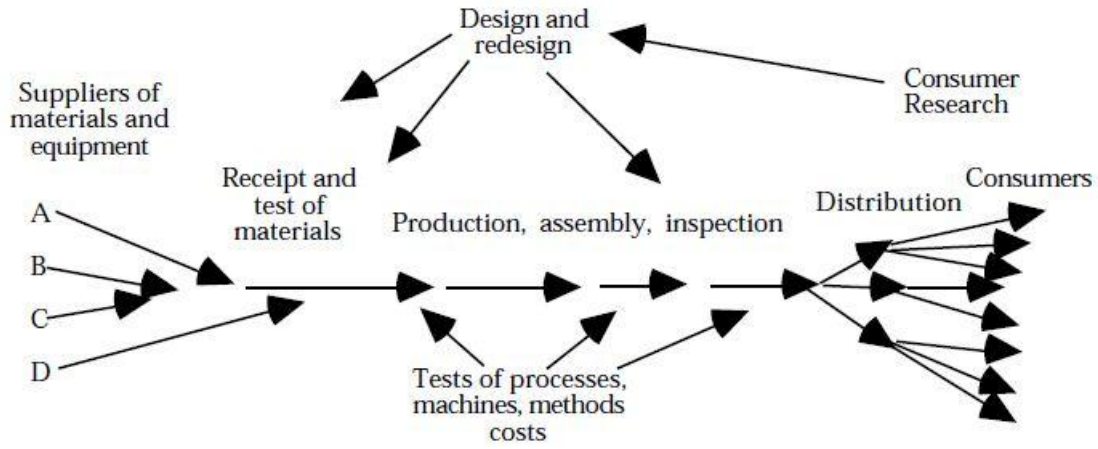
> *"Capital constraints and the low production volumes in the Japanese market did not justify the large batch sizes common at Ford and GM"* (Holweg, 2007:421)

Taiichi Ohno (1988) himself credits the Ford production system as providing much of the know-how and inspiration for developing the TPS. In light of the macro limitations faced by Toyota, Ohno knew that mass production was not a viable option for Toyota but he also observed much of the production activity as non-value adding, hence the principle of continuous production flow and the elimination of all waste was actually inspired by Ohno's visit to Ford.

2.2.5 Training in Quality

Kunonga et al (2010) describe how a combination of limited resources, an unskilled workforce and poor management led to poor quality products in Japan's post-second world war economy. The Japanese response to this crisis was a major drive to improve quality by setting up a national quality inspection body to train Japanese engineers and managers on quality improvement techniques (Kunonga et al, 2010; Seddon et al, 2009). These training programmes were led by some of the most influential western guru's including Edward Deming, Joseph Juran, and Peter Drucker. Deming who had been sent to Japan to help with statistical approaches to population surveys, was later awarded the Second Order Model of Sacred Treasure by the Japanese Emperor in recognition of his influence on Japanese management (Seddon et al, 2009). Seddon et al (2009) refer to Deming's famous 'Figure 1' diagram: 'Production viewed as a system' (Deming, 1982) which was used to orientate the Japanese audience towards a process view. The purpose of the diagram was to view operations at a 'system' level rather than focussing on individual functions (Seddon et al, 2009).

Figure 2.3: Deming's 'Fig 1' diagram: 'Production viewed as a system'



This aptitude and propensity towards training and learning during the 1950's suggests that education was an important contextual factor in the development of the TPS yet today there appears very few scholarly articles that link the importance of education and training in relation to Lean implementation. Näslund

(2008) is a notable exception, providing support for the contention that education and training is necessary to creating the readiness for organisational change, adopting a system view of the organisation and moving away from the traditional functional mindset that has limited early implementations of Lean (Schonberger, 2007; Denison, 1997).

> *"Acquiring a systems view of organizations, needed for successful implementation of change effort, most likely requires different education and training than what is currently offered. Education in a systems and process view of organizations answers the questions why the change of the system is needed, how it is supposed to change, and what the benefits will be to the system. This education can also prepare the organization for change – create the readiness for change (Jones et al., 2005; Wanberg and Banas, 2000)".* (Source: Näslund, 2008:281)

2.2.6 Summary and implications for research

Section 2.2 highlights the relationship between Japan's environmental context and the development of the TPS. The response of Toyota engineers and Japan itself was to learn from others (Taiichi Ohno (1988) himself credits the Ford production system as providing much of the know-how and inspiration for developing the TPS), and to invest in quality though education and training. It is not without irony that whilst the Western world developed a fixation with Japanese best practice many aspects of the TPS such as 'flow' and 'quality at source' were actually learned from the West (Voss, 1995 Holweg, 2007; Seddon et al, 2009).

2.3 The Codification of Lean

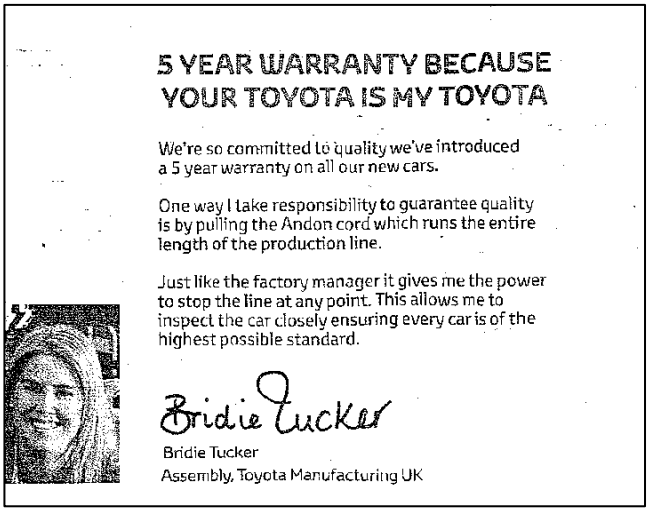
"Improvement is never-ending – and by writing it down, the process would become crystallized" (Ohno 1988 pxi [foreword])

The above quote is cited in Seddon et al (2009:18) to support the author's conclusion that a codification of Lean will paradoxically prevent continuous improvement. However, the superior performance of Japanese manufacturers has led to considerable interest in the 'Japanese miracle' during the 80's and 90's (Seddon et al, 2009). Evidently, western manufacturers are keen to understand 'how' such superiority of performance is accomplished (Schonberger, 2007; Womack et al, 1990). Three approaches to the codification of Lean are considered here beginning first with Toyota's own conceptualisation of the TPS/Lean.

2.3.1 The Two Pillars of the TPS: *Jidoka and Just in Time*

Holweg (2007) cites Ohno's (1988) description of the two pillars that make up the TPS: 'Jidoka' which translates as autonomation, or *automation with a human touch*, and 'Just In Time' (JIT), which refers to the concept of having only what is needed when it is needed without any waste. The notion of automation with a 'human touch' refers to the critical role of an employee in any process, for example to 'stop the process' for immediate resolution of problems as described in section 2.1. At Toyota the Andon cord was developed as a tool to enable employees to stop the production line should they become aware of a quality problem. The andon cord typically sounds an alarm accompanied with a flashing light to signal where the problem has occurred. Following recent media controversy over the safety of their vehicles, Toyota have highlighted their use of the andon cord in recent media advertisements in a bid to reassure their customers that every employee is committed to quality and has permission to halt production immediately should a quality problem occur (see Figure 2.4).

Figure 2.4: Toyota advertisement (Source: The Times newspaper, July 2010)



The second pillar of the TPS, 'JIT', is reportedly a suggestion made by Kiichiro (the founder of Toyota Motor Corporation) that *'the best way to work would be to have all the parts for assembly at the side of the line just in time for the user'* (Ohno, p.1988:75, cited in Holweg, 2007:422). These two pillars are still at the heart of Toyota's stated vision and philosophy today as illustrated in Figure 2.5.

Figure 2.5: The TPS Concept. Source: Toyota Company website[6]

Jidoka highlighting/visualising problems	Just In Time (JIT) Productivity improvement
Quality must be built in during the manufacturing process! If a defective part or equipment malfunction is discovered, the machine concerned automatically stops and operators stop work and correct the problem. For the JIT system to function all the parts that are made and supplied must meet predetermined quality standards. This is achieved through Jidoka.	Making only "what is needed, when it is needed, and in the amount needed!" Producing quality products efficiently through the complete elimination of waste, inconsistencies, and unreasonable requirements on the production line. In order to deliver a vehicle ordered by a customer as quickly as possible, the vehicle is efficiently built within the shortest possible period by adhering to the following:
1. Jidoka means that a machine safely stops when the normal processing is completed. It also means that, should a quality or equipment problem arise, the machine detects the problem on its own and stop, preventing defective products from being produced. As a result, only products satisfying the quality standards will be passed on to the next processes on the production line. 2. Since a machine automatically stops when processing is completed or when a problem arises and is communicated via the "andon (problem display board)," operators can confidently continue performing work at another machine, as well as easily identify the problem cause and prevent its recurrence. This means that each operator can be in charge of many machines, resulting in higher productivity, while the continuous improvements lead to greater processing capacity.	1. When a vehicle order is received, a production instruction must be issued to the beginning of the vehicle production line as soon as possible. 2. The assembly line must be stocked with small numbers of all types of parts so that any kind of vehicle ordered can be assembled. 3. The assembly line must replace the parts used by retrieving the same number of parts from the parts production process (the preceeding process) 4. The preceeding process must be stocked with all types of parts and produce only the number of parts that were retrieved by an operator from the next process.

2.3.2 Principles and Rules

In 1996, following the success of *'The Machine…'* (Womack et al, 1990), the authors defined five principles of Lean in their book 'Lean Thinking' (Womack and Jones, 1996; 2003). The principles are described by the authors as 'a sort of North Star… a dependable guide to action to help managers transcend the day to-day chaos of mass production' (Womack and Jones, 2003:10). These five principles (Box 1) are considered probably the most widely cited in the academic literature (Radnor, 2010a). The authors assert that through understanding these

[6] http://www2.toyota.co.jp/en/vision/production_system/index.html accessed 17/12/09

principles and tying them all together, organisations can stay on course towards Lean operations.

Box 1: Five Principles of Lean Source: Womack and Jones (1996, 2003)

1. Specify value from the perspective of the customer.
2. Identify the value stream for each product and challenge all of the wasted steps.
3. Make value flow continuously, without interruptions.
4. Let the customer pull value from the producer
5. Pursue perfection.

Spear and Bowen (1999) also sought to codify and 'demystify' the Toyota Production System. Like Schönberger (2007), Spear and Bowen (1999) reflect with bemusement the failure and frustrations of hundreds of thousands of managers in successfully replicating the success of Toyota. The authors like others (eg. Roth, 2006), suggest that observers are mistaking the tools and techniques that they see as the system. Spear and Bowen (1999) propose that rigid work specification at Toyota is what provides the organisation with the impetus for continuous improvement.

"It [is] impossible for them to resolve an apparent paradox of the system - namely, that activities, connections, and production flows in a Toyota factory are rigidly scripted, yet at the same time Toyota's operations are enormously flexible and adaptable. Activities and processes are constantly being challenged and pushed to a higher level of performance, enabling the company to continually innovate and improve." (Spear and Bowen 1999:97)

Spear and Bowen's (1999) contribution to the literature entitled 'Decoding the DNA of Toyota' is to use their own observations to make the implicit, explicit. The authors propose four rules: three of design and one of improvement (See Box 2).

Box 2: The Four Rules that make up the DNA of Toyota (Source: Spear and Bowen, 1999)

Rule 1: All work shall be highly specified as to content, sequence, timing, and outcome.

Rule 2: Every customer supplier connection must be direct, **and** there must be an unambiguous yes-or-no way to send requests and receive responses.

Rule 3: The pathway for every product and service must be simple and direct.

Rule 4: Any improvement must be made in accordance with the scientific method, under the guidance of a teacher, at the lowest possible level in the organization

According to Spear and Bowen (1999), the central tenet of the TPS is to create a 'community of scientists'. The rigid specification of work exemplified in rule one is about testing hypotheses through action. The authors explain: *"Performing the activity tests the two hypotheses implicit in its design: first, that the person doing the activity is capable of performing it correctly and, second, that performing the activity actually creates the expected outcome… refuting at least one of these two hypotheses, indicates that the activity needs to be redesigned or the worker needs to be trained"* (Spear and Bowen, 1999:100). Rules two and three denote the removal of ambiguity in communication and process pathways. An emphasis is placed on the use of clear, visual unambiguous signals that are precise, detailed, expressly designed and standardised in the manner outlined in rule one.

In common with the principles stipulated in Womack and Jones (1996), these rigid rules of design are central to achieving 'flow':

"A product does not flow to the next available person or machine, it should flow to a specified person or machine" (Spear and Bowen, 1999:104)

If flow cannot happen according to its specification then Toyota will treat it as a problem. This rigid specification of the pathway is again testing hypothesis in action, i.e. a pathway designed according to rule 3 (see box 2) dictates that every supplier connected to the pathway is necessary, and any supplier not connected is not necessary. If for any reason, production is diverted to another supplier or if staff begin turning to others for help that are not designated helpers, Toyota would conclude that their actual demand or capacity did not match their expectations (Spear and Bowen, 1999:102). Thus, the authors identify that whenever Toyota defines a specification, it is establishing sets of hypotheses that can be tested, anything less than such scientific rigor they claim, would amount to little more than trial and error.

The fourth rule put forward by Spear and Bowen (1999) is about explicitly teaching people how to improve according to the scientific method of hypothesis testing, i.e. *"If we make the following specific changes, we expect to achieve this specific outcome"* (Spear and Bowen, 1999:104).

In summary, the principles defined by Womack and Jones (1996) and Spear and Bowen (1999) differ in their articulation of the principles but have a common pursuit of achieving continuous flow and continuous improvement. The five principles put forward by Womack and Jones place more emphasis upon defining value from the perspective of the customer, whereby Spear and Bowen's rules place greater emphasis on unambiguous design, rigid specification and scientific testing in relation to continuous improvement. Essentially the two guides for implementation described above are both valuable contributions to an understanding of the central tenets of Lean and Lean implementation.

2.3.3 Summary and Implications for research:

Sections 2.1 and 2.2 have described the background of the TPS and demonstrated through the literature how the concept of Lean has evolved in relation to its origins in Japan and the context of industrial engineering practices and innovation. A number of key tenets have emerged, in particular a focus upon waste elimination and quality. A key barrier to Lean implementation in manufacturing

has been identified as the continued prevalence of a functional perspective, yet some authors refer to Lean as the new manufacturing orthodoxy. This apparent contradiction might be explained by a dominant focus upon tools that are associated with Lean, whilst the principles of Lean remain poorly understood.

In recognition of a need to 'demystify' Lean, two influential accounts of principles/rules are discussed. This codification of Lean is useful but does not on its own constitute a definition that can be used to distinguish whether or not an organisation is doing Lean or just talking Lean. The five principles of Lean articulated by Womack and Jones (1996) and the four rules put forward by Spear and Bowen (1999) each serve as guides to implementation but fall short of an all-embracing definition. Section three takes a more detailed look at how we might define Lean in a bid to develop an axiomatic understanding of 'what is Lean' in order to guide this research.

2.4 What is Lean?

Deciphering 'what is Lean' is not straightforward despite more than two decades of enquiry (Taylor and Taylor, 2008) and more than 50 years since its inception in Toyota, Japan.

> *'Much disappointingly, the definition is highly elusive'* (Pettersen, 2009:127).

The many downfalls of not having a precise definition are recounted in Pettersen (2009) as communication difficulties (Dale & Plunkett, 1991 *in* Boaden, 1997); difficulties of education on the subject (Boaden, 1997); difficulty in researching the subject (Godfrey et al, 1997; Parker, 2003) and the difficulty of establishing the effects of Lean implementation (Parker, 2003; Karlsson & Åhlström, 1996). Conversely, others question whether a definition is really necessary to define Lean arguing that to crystallise Lean as a set of methods would undermine the very nature of Lean, halt its evolutionary development and thereby eschew the very thing that makes it great (see Ohno, 1980; Seddon et al, 2009).

2.4.1 Lean as a concept

Pettersen (2009) explored the literature for convergent validity of Lean by identifying the 20 most frequently cited articles of two *'major citation databases'* (2009:3) where the keywords 'Lean Production' and 'Lean manufacturing' were used. A clear limitation of the use of these keywords is that the discussion is limited to manufacturing environments rather than exploring the concept as one of universal applicability as advocated in Womack and Jones (1996). In addition, the method potentially favours earlier publications on the basis that they are likely to be cited more times due to the fact that they have been around longer, again potentially limiting the research to an early understanding of Lean. A further criticism is the argument that an understanding of Lean from the TPS has been evolutionary (Hines et al, 2004) and arguably misguided during the early days (Seddon et al, 2009; Schönberger, 2007), thus, this method is likely to falsely emphasise and reflect a tool based approach and hence fail to capture some of the new learning and understanding of Lean captured in more recent research articles. A final criticism of the method employed by Pettersen (2009) relates to the time span of the 12 articles used by the author ranging from 1988 when the term Lean was first used (see Krafcik, 1988) to the most recent article which was published nearly ten years ago in 2001. The results of Pettersen's study however, do offer a pragmatic and constructive starting point in deciphering *what is Lean*. Table 2.3 replicates Pettersen's grouping of characteristics of Lean found to be in common with all authors; the bracketed percentages illustrate the degree to which the authors were in common i.e. 100% means all authors cited these characteristics.

Table 2.3 Lean characteristics (Source: Pettersen, 2009)

Collective Term	Specific characteristics
Just in Time practices (100%)	Production levelling (Heijunka); Pull system (Kanban); Takted Production; Process synchronisation.
Resource Reduction (100%)	Small lot production; waste elimination; set-up time reduction; Lead time reduction; Inventory reduction
Improvement Strategies (100%)	Improvement circles; Continuous improvement (Kaizen); Root cause analysis (5 whys)
Defects control (100%)	Autonomation (Jidoka); Failure prevention (poka yoke); 100% inspection; Line stop (Andon)
Standardisation (100%)	Housekeeping (5S); Standardised work; visual control and management
Scientific management (100%)	Policy deployment (Hoshin Kanri); Time/work studies; multi manning; work force reduction; Layout adjustments; cellular manufacturing
Human Relations Management (78%)	Team organisation; Cross training; Employee involvement
Supply Chain Management (78%)	Value stream mapping/flow charting; supplier involvement
Bundled techniques (56%, 67%)	Statistical Quality Control; preventative maintenance (TPM)

As discussed above, the methods taken by Pettersen (2009) lend bias towards a manufacturing environment. However, what is evident is that there does appear to be a high degree of convergent validity with standardisation, scientific management, Just in Time, resource reduction and improvement strategies all scoring 100% in association with Lean. Pettersen's findings resonate with many of the themes discussed as part of this literature review so far. However Pettersen's work potentially shares the same fallacy of many organisations when implementing Lean, namely focusing and replicating the bits that you see and not the parts that you can't see (Schönberger, 2007). What Pettersen's findings do not

discuss is the operationalization of Lean. i.e the management structure, the education and learning and the changing from functional mindsets to a process view that was identified as important in sections 2.1 and 2.2. Dahlgaard and Dahlgaard-Park (2006:266) explain:

'…it is important to remember, the so-called Toyota Production System was not a traditional quality assurance system… It was first of all a human-based system where people were involved with continuous improvements, and the foundation for the system was leadership and empowerment through education and training.'

2.4.2 Soft and Hard sides of Toyota

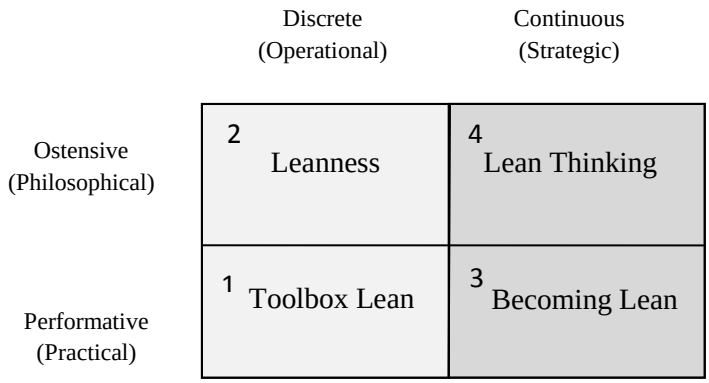
Osono et al's (2008) characterisation of two distinct sides of Toyota goes some way in helping us unravel the complex and dynamic nature of Lean as derived from the Toyota Production System. Having studied Toyota for six years, Osono et al (2008) differentiate between the company's 'hard side' which they refer to as a *'brilliant and unorthodox system of manufacturing'*, and a 'soft side' related to human resources, dealer management and corporate culture. The authors describe the system as: *'powerful and mysterious'* (Osono et al, 2008:4). This somewhat vague depiction of the TPS becomes clearer as the authors explain how the soft side has gained relevance due to a '*once in a century shift from the industrial society to the knowledge society'* (p.4) whereby an industrial society is focussed on assembly lines, machinery, robotics and automation, a knowledge society means that humans rather than machines are at the centre of all things with *'deep smarts embodied in the head and hands of every employee, dealer and business partner'* (p.4). It is proposed here that this human centric approach to automation (autonomation) - the *Jidoka* pillar of the TPS is most likely what permits the universality of Lean in manufacturing, service and public sectors and supports the contention of many authors that manufacturers frequently fail in their implementation as they often try to copy the hard side (manufacturing excellence) with disregard for the soft (cultural) aspects of Lean (see for example Bhasin, 2008; Emmiliani, 2008; Holweg, 2007; Schönberger, 2007; Womack and Jones, 2006; Liker, 2006; Roth 2006, Spear, 2004).

In summary, an emphasis on the 'how' of implementing Lean beyond the harder aspects of principles, tools and techniques appears to be poorly understood.

2.4.3 Discernible approaches to Lean

Some authors report different approaches to Lean, i.e. they contend that the method of Lean implementation varies by organisation. Emiliani (2008) crudely typifies approaches as 'fake Lean' or 'real Lean' where fake Lean relates to an approach based around the tools of Lean and real Lean refers to a management system where 'respect for people' is central. Radnor and Walley (2008) in their research of Lean implementation in eight public sector organisations also report two distinct approaches to Lean which they classify as 'full' implementation that is linked to the long term strategy of the organisation or 'RIE' based which is linked to local objectives. Like Emiliani (2008) and Radnor and Walley (2008), Pettersen (2009) acknowledges the 'two main traditions of Lean as: 'tool box Lean' and 'Lean Thinking' and links these to two different types of goals: internally focused goals and externally focused goals; *'an internally focused cost reduction initiative will differ substantially from an externally focused initiative to improve customer satisfaction'* (p.5). Further the author notes that Lean exists at two levels, both operational and strategic (see Hines et al, 2004) and that Lean can be seen as having a practical as well as a philosophical orientation (see Shah and Ward, 2007; Bhasin, 2008). The author uses goal oriented axis to compile an illustration of four discernible approaches to Lean production. Figure 2.6 replicates the table from Pettersen where the author employs the bracketed terms 'operational' and 'strategic' from the work of Hines et al (2004), and the bracketed terms 'philosophical' and 'performative' from the work of Shah and Ward (2007).

Figure 2.6: Characterisation of approaches to Lean (Source: Pettersen, 2009)



Pettersen (2009) offers little descriptive or empirical application of the four distinct approaches he identifies; however, the extant literature provides a good basis for exploring the validity of figure 2.6. For example, the bottom left quadrant (1) represents an approach to Lean that is 'discrete' and 'performative' i.e. an isolated event with a start and end time designed to 'get things done' and thus utilises a 'Toolbox Lean' approach. This approach to Lean implementation is in evidence in the literature with many authors lamenting upon patchy and fragmented approaches to Lean implementation which some authors argue are potentially destructive to the system as a whole (Towill and Christopher, 2005; Waldman and Schargel, 2006; Young and McClean, 2008; Proudlove et al, 2008; Radnor et al, 2012).

The upper left quadrant (2) reflects a discrete approach that is labelled as 'ostensive' i.e. 'seeming to be true or genuine, but open to doubt' (Encarta Dictionary, January 2010). This definition resonates with Liker's hypothesis that whilst organisations are talking about Lean, they are often not actually doing Lean they are merely applying a few tools to some pre-defined problems. The classification is perhaps a reflection of the mantra 'Lean is more than a set of tools', yet many organisations are found to define Lean primarily by a set of highly visible tools such as Rapid Improvement Events *(RIEs – a short burst of improvement activity usually taking place over 3-5 days),* Value Stream Mapping *(VSM – a high level process map used to identify waste in a process)* and 5S *(a structured approach to standardisation: sort, straighten, sweep, standardise and sustain)* (Bicheno, 2004; Roth, 2006). Applications of the tools of Lean without

the underlying philosophy are historically a common fallacy that has led to the failure of most Lean implementations in Western sectors (Bhasin, 2008; Emmiliani, 2008; Holweg, 2007; Womack and Jones, 2006; Liker, 2006; Roth 2006). Spear (2004) cautions that where organizations merely imitate the tools and not the principles of Lean the result is a rigid inflexible system. The addition of a layer of Lean tools by top managers to their organisation's existing practices does not make an organisation Lean (Roth, 2006).

Moving across to the right hand column of Pettersen's framework, the term 'continuous' is defined as a process oriented perspective that focuses on continuous efforts to improve. An organisation that does so in a performative manner (Box 3), i.e. improvements that are aimed at reaching certain goals of performance or targets for example places an organisation on the path to 'Becoming Lean'. Box 4 identifies organisations that appear to embed Lean as 'part of their daily work' (Hines et al 2008; Corbett, 2007). Essentially Pettersen's framework makes the distinction between Lean implementation that is discrete (left hand column) or process oriented (right hand column). Pettersen's term 'discrete' closely resonates with the functional perspective, discussed in section 2.1, that has been shown to limit Lean implementation (McNulty, 2003 and McNulty and Ferlie, 2004).

The additional dimension Pettersen's (2009) framework offers is one of the organisation's goals: pragmatic or systemic. This depiction of a typology of Lean presents an alternative approach to defining Lean. Moving away from a binary perspective of 'real lean' and 'fake lean', Pettersen's (2009) typology resonates with the notion of Lean as a 'journey' (Fillingham, 2007; Radnor 2010) and takes into consideration the influence of context (Taylor and Taylor, 2008). However, as already stated, Pettersen (2009) offers little empirical evidence for the existence of divergent approaches to Lean implementation.

Section 2.5 Summary of Part One and implications for research

At this definitive juncture, it is necessary to pull together the key factors identified so far through the literature review in order to inform a working definition to guide the thesis. The extant literature makes a very clear case that Lean as derived from the TPS should be understood as a holistic approach to continuous improvement and not a set of tools. Ohno (1988) is unequivocal that *"improvement is never-ending – and by writing it down, the process would become crystallized"*, thus an absolute definition is perhaps not appropriate and a conceptualisation of the philosophy of Lean consisting of interdependent parts is more fitting. Lean is hereby conceptualised as consisting of three essential interdependent parts: a set of principles, a system perspective, and quality tools and approaches (Ohno, 1988; Womack and Jones, 1996; 2003; Spear and Bowen, 1999 Emilliani, 2008; Näslund 2008; Dahlgaard and Dahlgaard-Park, 2006; Towil, 2009).

This broad conceptualisation of Lean embraces a clear and strong relationship between principles, systems, and tools as advocated by the creators of the 'Shingo Prize'. The Shingo prize is named after the co-creator of the TPS, Shigeo Shingo, and the prize was first awarded to US manufacturers in 1989 (Schönberger, 2007). Whilst no academic literature exists to evaluate the effectiveness of the Shingo Prize, the Shingo Prize website cites three 'new paradigms' that should be understood and acted on to accelerate cultural transformation[7]. The new paradigms are:

1. There is a clear and strong relationship between principles, systems, and tools.
2. Operational excellence requires focus on both behaviours and results.
3. Business and management systems drive behaviour and must be aligned with correct principles.

In summary, Lean is best understood as a management system incorporating tools and techniques that are guided by a set of principles.

[7] See: http://www.shingoprize.org/the-shingo-prize.html accessed 5/2/12

Part one: 'Exploring Lean Phenomena' has provided a background to Lean from its origins as the Toyota Production System in Japan and its translation to the West. Essentially, part one highlights the following themes:

- Section 2.1 highlights the difficulty faced by many organisations in moving from a traditional functional mindset to a process based mindset. Linked to this, applications of Lean are frequently criticised for focusing on a discrete application of improvement tools without consideration for the wider system (Bhasin, 2008; Emmiliani, 2008; Schönberger, 2007; Holweg, 2007; Womack and Jones, 2006; Liker, 2006; Roth 2006; Spear 2004).
- Section 2.2 draws attention to the influence of environmental context in relation to the origins of Lean, where the Toyota Production System was developed in response to severe economic difficulties in Japan, at a time where resources were scarce and quality problems endemic.
- Section 2.3 highlights the difficulty of codifying Lean and this has consequences for communicating Lean to others, understanding what Lean is about and establishing the effects of Lean (Boaden, 1997; Parker, 2003; Karlsson & Åhlström, 1996).
- Finally, section 2.4 presents a discussion relating to the characterisation of Lean beyond conceptualisation of a traditional 'tool box' approach to implementing Lean versus the implementation of 'real' Lean. Pettersen's attempt to characterise Lean as four discrete approaches is identified as useful but criticised for a lack of empirical evidence to support the characterisations.

In summary, part one facilitates the identification of a gap in understanding relating to the concept of Lean coupled with the emerging suggestion that it might be better characterised as more than a binary concept that is either tool based ('fake Lean') or system wide ('real Lean'[8]). Part one also highlights the necessity of changing mindsets and the influence of contextual economic factors in the development of the Toyota Production System. Part two considers the public

[8] The terms 'real Lean' and 'fake Lean' are adopted from Emilliani, 2008)

sector context in relation to implementing Lean before moving on to explore Lean implementation specifically in healthcare.

Part Two: Implementing Lean in the Public Sector and in Healthcare

Section 2.6 Lean and the Public Sector

Womack and Jones declare a universal applicability of Lean in their sequel to *The Machine…*: *'Lean Thinking'* (1996); their contention is supported by examples in organisations large and small. Some of the best examples of Lean implementation outside of Toyota are thought to include UK supermarket retailer Tesco and the UK based Logistics organisation Unipart (Radnor, 2010b). Since its inception, applications have been documented in academic and practitioner literature in every sector from manufacturing and aerospace to the service sector and the public sector from central government, local government and healthcare (James-Moore and Gibbons, 1997; Bowen and Yougdahl, 1998; Mathaisel and Comm, 2000; Åhlström, 2004; Bhatia and Drew, 2006; Krings et al, 2006; Piercy and Rich, 2009; Radnor 2010a; Radnor, 2010b).

Part two focuses on the extant literature relating to the implementation of Lean in the public sector. First a brief synopsis of the public sector context is presented alongside an outline of the complexities and barriers to Lean implementation in the public sector. Second, the thesis evaluates two descriptions of Lean implementation in the public sector reported in the literature by Krings et al (2006) and Radnor (2010b). These two papers are selected because they describe a step by step process of Lean implementation in public sector organisations which most accounts of Lean implementation fail to provide. A step-by-step description of the implementation process enables a comparison between Lean implementation as described by the authors, and the principles and tools for implementing Lean as discussed in part one. In summary, part two considers how the principles of Lean can be applied in practice in a public sector context and the nature of the barriers and complexities faced in relation to the practical implementation of Lean. The review of literature then moves on to consider the context of healthcare and a case for Lean in healthcare is outlined as congruent with healthcare goals of 'quality and safety'. Part two concludes with an

evaluation and analysis of three widely cited examples of organisation wide Lean implementation in hospitals in the USA, Australia and the UK.

2.6.1 The case for Lean in the Public Sector

The context of the public sector could be described as one of an 'impatient electorate' expecting better education, healthcare, pensions and transport. At the same time, the need for value for money is *'under the spotlight as never before'* (Bhatia and Drew, 2006:97). British public sector reform over the past three decades has often been described as New Public Management (NPM) (Rashman and Radnor, 2005). Reform as the crux of the New Public Management (NPM) has been *"pandemic"* since the 1980's (Boyne, 2003:367). In the UK, what was originally a cost reduction exercise under Conservative government became a modernisation and quality perspective under New Labour (post 1997) with stricter monitoring and evaluation of organizational performance (Rashman and Radnor, 2005). The New Labour reforms are summarised as shifting from an objective to repair the impact of a lack of investment by the previous Tory government to *'tackling underperformance and variations in provision'* (New Statesman, 2008 cited in Ghobadian *et* al, 2009).

McNulty (2003) describes New Public Management (NPM) as a keenly charted phenomenon that advocates the pursuit of greater efficiency and responsive public services. The NPM aspirations of public service modernisation projects has strong resonance with a process perspective of organising proffered by Denison (1997) that is concerned more with value creation than a functional orientation of controlling the value creation process (McNulty, 2003; Nwbauze, 2000). Aligned to this, Radnor and Walley (2008) cite the Gershon Report published in July 2004 as providing the impetus to improve public services through the transfer of industrial practices, in particular Lean. Specifically, the Gershon Report called for £20 billion in efficiency gains across the UK public sector; where an efficiency gain is defined as an improvement in the productivity of resources used

to deliver services, it includes obtaining: "more for the same", "much more for a little more", "more for less", and "the same for less"[9].

Hartley and Skelcher (2008) contend that in the UK, politicians have staked their reputation on improving public services and that 'improvement' continues to be of high priority. Testament to the impact of Lean in the public sector, the recent Operational Efficiency Programme report (Treasury, 2009) highlights the success of the efficiency agenda in delivering £26.5 billion of efficiencies against a target of £21.5 billion (Treasury, 2009). The OEP is explicit in its recommendation for the use of continuous improvement approaches such as Lean, systematically across the public sector, commending the approach as 'effective, sustainable and comparably inexpensive' (p.83).

2.6.2 Transferring Lean from the Private to the Public Sector

A typology of private sector involvement in the public sector outlined in Ghobadian et al (2009) identifies the transference of private sector management practices such as Lean to the public sector as *"predicated on the belief that the public sector can learn from the private sector, that choice between providers is inherently beneficial to the consumer of the service either in terms of the cost or quality of that service, that services should focus upon responsiveness to consumer need rather than being producer led"* (p.1520). The authors stipulate a high degree of scepticism over the success of such reforms in incorporating such practice despite a lack of scholarly evidence to support this view. Ghobadian et al (2009) cites Painter's (2006) identification of concerns with the reform agenda encapsulating a tendency to look for universal panaceas that are grounded in market discipline. Particular concerns highlighted from Painter (2006) include:

- A lack of consistency of methods proposed;
- The impact of uncertainty associated with public markets on long term capacity planning and coordination on key priorities in essential services;

[9] Source: www.rcoe.gov.uk/rce/core/page.do?pageId=10106 accessed 22nd March 2010.

- The challenge of the contestability notion to previous ideas of encouraging collaboration;
- A lack of clarity in the role and nature of regulatory oversight bodies.

Further complexities and tensions of NPM proffered in Krings et al (2006) resonate with those of Painter (2006). Krings et al (2006) describe ambiguity over who is in charge –"No-one" or even, "Everyone". Transitory leadership in the public sector at macro and micro levels pose a particular problem for continuity and consistency of methods proposed. *"Even when there is clearly someone in charge, processes may have evolved so imperceptibly that their existence, much less their impacts, are not readily apparent to anyone"* (Krings et al, 2006:17).

In sum, the concept of service improvement per se in the public sector can be summarised as *"inherently political and contestable"* (Boyne, 2003:368). Multiple lines of governance give rise to a multiplicity of criterion upon which performance and improvement is judged (Boyne, 2003). Any search for a definitive set of variables to explain change in public services is likely to end in disappointment as such variables are too diverse, complex and above all dependant on socio-economic, cultural and political contextual factors at play for a unifying theory to be constructed (Politt & Bouckaert, 2004).

2.6.2.1 Difficulty identifying the customer

More specifically to the implementation of Lean in the public sector, a fundamental problem lies in the difficulty of identifying the customer (Young and McClean, 2008). Stakeholder theory suggests that managers inevitably prioritise the interests of what they identify as their key stakeholders, and particularly those providing critical resources (Ghobadian et al, 2009). In the case of public services this means that the interests of government, as the commissioner and funder of services, are prioritised rather than the end-users of services thereby distorting the objectives of government and giving rise to management responses that run counter with the objectives of a reform programme (Ghobadian et al, 2009). The

same principle thereby might also suggest that such conflicts of interest run counter to the first principle of Lean as defined by Womack and Jones (1996) '*Specify value from the viewpoint of the customer'*. Drawing on their research in healthcare, Lodge and Bamford (2008) assert that until there is a requirement for members of a team to change their own practices then the implications of that target do not hit home; suggesting that improvement is healthcare tends to be reactive, driven by targets set by government.

The influence of a macroeconomic context characteristic of the public sector poses a significant challenge upon Lean implementation. Young and McClean (2008) assert that the presence of multiple stakeholders coupled with a corresponding plurality of perspectives and priorities makes a clear delineation of 'value' from the perspective of the customer particularly difficult. Thus, Radnor et al (2012) conclude that Lean is not a context free concept and thereby implementing Lean in public sector organisations poses a unique set of challenges. Radnor et al (2012) condemn the complexities of a public sector context as presenting two violations of Lean, namely: the indeterminate nature of 'the customer' (the patient, the taxpayer, the commissioner, the government etc) and the lack of incentive to 'free up resources,' as this is often seen as a resource reduction rather than an opportunity to develop and grow a profitable service as it would be seen in the private sector. Similarly, Ghobadian et al (2009) contend that managers in the UK will always move to satisfy the requirements of the priority stakeholder (Ghobadian et al, 2009). This can conceivably result in a situation where value as specified by the public user is at odds with the best use of resources against a backdrop of budget cuts and efficiency targets. Thus an inherent conflict between what 'customers' value is likely to prevail depending on our identification of the customer.

2.6.3 Summary and implications for research

The public sector context presents a number of key challenges to the implementation of Lean. Ghobadian et al (2009) propose that managers will inevitably prioritise the interests of what they identify as their key stakeholders,

and particularly those providing critical resources; similarly, Radnor et al (2012) highlight the inherent difficulty relating to the nature of 'the customer' in light of multiple stakeholders and the lack of incentive to 'free up resources' as formidable obstacles to the implementation of Lean; Painter summarises the impact of persistent reforms that lack consistency and incite uncertainty; and Boyne (2003) and Pollit and Bouckaert (2004) highlight the inherent contestability of complex and diverse metrics in any attempt to measure performance and improvement. Despite these formidable barriers, the implementation of Lean in the public sector has been recounted widely in academic and grey literature. Section 2.7 considers the process of Lean implementation in public sector services through the comparison of two case study accounts documenting the process of Lean implementation and the challenges faced.

Section 2.7 Implementing Lean in the Public Sector

Despite evidence of widespread Lean implementation in the public sector there is still little descriptive evidence of 'how' Lean is being implemented; this may be linked to the fact that Lean implementation outside of manufacturing may still be considered to be relatively new (Slack and Lewis, 2008). Section 2.7 compares two descriptions of Lean implementation in government and local government contexts and these are compared against the principles of Lean identified in part one.

2.7.1 Implementing Lean in Government and Local Government

The use of Lean in local government is reported by Krings et al (2006). Reporting the impact of Lean implementation to redesign the Police Recruitment process alongside another case study of a sanitary sewer easement process in the US, the authors describe a four step process to implementing Lean. In congruence with the literature reported in section 2.4.3 (part one of this chapter), Krings et al identify different approaches to Lean implementation in relation to the goals of the organisation, distinguishing between narrowly focused improvement activity

requiring a short time frame and a more guided implementation approach to managing resources to achieve the desired goal where the time frame is longer (see step 3, box 4). The process steps described by Krings et al (2006) are outlined in Box 3:

Box 3: The process of Lean implementation

Step 1: Assess and plan – this step focuses on understanding the needs of the organisation and how it operates. The output of this step is specified as a report identifying 1) strengths, constraints, opportunities and threats; and 2) prioritised improvements.

Step 2: Train – to develop a critical mass of expertise within the organisation beginning at the top of the organisation. The objective is for those with more responsibility for implementing a Lean initiative can begin by developing their own knowledge and expertise through change management, process improvement techniques and performance management.

Step 3: Implement – a narrowly focused improvement opportunity over a short time frame will embrace a *kaizen* approach, wherein a cross functional group focuses on improving a predefined process to achieve a desired result or goal. Improvement efforts over a longer duration necessitate a guided approach to manage resources towards the desired result or goal. Both approaches will utilise lean continuous improvement tools, process management techniques and project management skills.

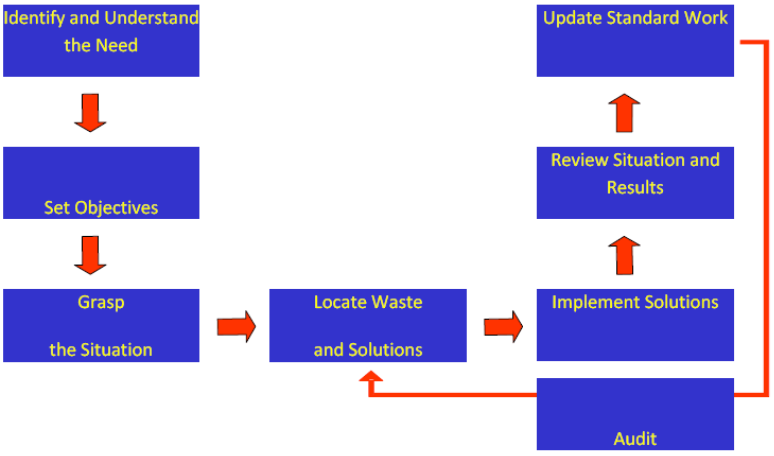
Step 4: Embed – monitoring and tracking of key performance measures and the coaching and mentoring of lean implementers. This step is considered the linchpin of lasting lean improvements.

In the UK, Radnor (2010b) describes the roll-out of the 'Unipart Way' to implement Lean in Her Majesty's Revenue and Customs (HMRC). The HMRC is responsible for *"administering taxes (both direct and indirect), National Insurance contributions and Customs duties. HMRC also pays and administers tax credits, Child Benefit and Child Trust Fund"* (Radnor, 2010b:416). The

Unipart Way was developed as a philosophy of a working in the manufacturing division of Unipart which was later attributed the accolade of *"The best example of the Toyota Production System outside Japan"* by the Vice-President of Toyota Motor Company (Radnor, 2010b). The implementation model developed at Unipart initially for sharing knowledge with Unipart's own suppliers was later rolled out as a new consultancy division. The model is replicated from Radnor (2010b:414-415) in figure 2.7a and b.

Figure 2.7a: The Unipart Way (Source: Radnor 2010b:414-415)

Figure 2.7b: Unipart model for Lean implementation (Source: Radnor 2010b:414-415)



The Unipart Way stays close to the origins of Lean, paying clear homage to the *Jidoka* pillar of the TPS with the slogan: *'Efficiency with a Human Face'*, thus reminding employees of the essential part they play in facilitating and improving efficiency in the organisation. Both models of implementation (outlined in Krings et al, 2006 and Radnor, 2010b) acknowledge 'training' and knowledge transfer as an important aspect of Lean implementation supporting the findings of Part One that education and learning is necessary when an organisation implements Lean.

The diagram in Figure 2.7b follows a similar process to that of Krings et al (2006), with 'identification' and 'understanding the need to improve' as an important first step followed by a 'setting of objectives' (akin to step 1 of Krings et al, 2006 and 'grasp the situation' in the Unipart process). Again, the inference here is that the Unipart way stays close to the TPS as *'understanding'* was thought to be the favourite word of Taiichi Ohno, (Seddon et al, 2009). Steps to locate waste and implement solutions reflect step 3 of the model put forward by Krings et al (2006), and the final steps of the Unipart Way dictates a review of the situation and results and updating 'standard work'. This 'standard work' step presents an apparent departure from the similarities with the steps presented in Krings et al (2006), but again stays close to the DNA of the TPS (Spear and Bowen, 1999) whereby *'rigid specification is the very thing that makes flexibility and creativity possible'* (p.97). Thus it might be sensible to conclude that the specification of work standards is an essential component of continuous improvement in a scientifically rigorous manner. The aim of the Toyota Production System in this sense is to develop a community of scientists, united by the same goal of continuous improvement supporting the contention of Spear and Bowen (1999). The implication here is that the principles and rules for Lean implementation discussed in section 2.3.2 are shown to apply to the public sector.

2.7.2 Challenges of implementing Lean at HMRC

Returning to the implementation of Lean in HMRC, the roll out of Lean across multiple sites was facilitated using a combination of centralised internal Lean experts and local internal Lean experts rotating between sites every three months.

Working alongside external consultants (including Unipart) the objective was to consistently transfer learning and good practice (Radnor, 2010b). Discussing the findings of the evaluation of Lean implementation in HMRC, Radnor (2010b) notes that standardisation was one tool that met a lot of resistance. The author questions the applicability of standard work to the public sector (a key component of Lean identified in Pettersen, (2009), see table 2.3), due to the need to respond to demand in a number of different ways. Evidence is inconclusive however, as Radnor explains, the standard work did not come from the workers themselves, they were imposed on them and thereby (perhaps predictably), staff branded them as *'not fit for purpose'*.

In contrast, standardisation was one of the tools and techniques considered important by HMRC employees alongside structured problem solving, process management, team working, continuous improvement and performance boards (Radnor 2010b). Performance boards, visual management and daily problem solving was thought to have had a particularly significant impact across the organisation. However, the author notes a tendency of some of the sites to misuse daily meetings and performance boards: *'The format of the daily meetings, which were described to and witnessed by the research team, were about discussing (or finding reasons for) non-achievement of targets (i.e. poor performance) rather than improvement'* (Radnor, 2010b:8). This marks a return to the early discussion of the importance of changing mindsets (section 2.1), from a functional view of organising towards a systemic, process view of work. Thus moving away from territorial notions that deliver at best, 'islands of optimisation' (Holweg and Pil, 2001), and recognising the importance of value from the perspective of the customer that the process must conjointly deliver. Thus it seems that barriers faced by the public sector in implementing Lean are similar to that experienced by manufacturing in terms of creating a shift in mindset from a functional perspective to a process/system perspective (Hines et al, 2004), and from the use of tools to the development of culture and organisational readiness for change (Radnor 2010b; Hines et al, 2008).

2.7.3 Summary and implications for research

The case studies described in Krings et al (2006) and Radnor (2010b) support the view that Lean principles outlined in part one can be applied to the public sector. However, contextual differences between the public and private sector denote that Lean should perhaps be adapted rather than blindly adopted into the public sector (Radnor and Walley, 2008), particularly in light of an operating context with multiple stakeholders that render the determination of 'value' from the perspective of the customer as inherently contestable. However, the case study approach employed by Radnor (2010b) provides a rich description of the complexities and tensions of Lean implementation in a government organisation that resonate with those faced by the private sector. For example, a blame culture where staff are misusing performance boards (in some sites) to apportion blame focusing on the *'why not'* of improved performance rather than *'how to'* (Radnor 2010b:420). This finding supports the contention that Lean implementation does require cultural change, particularly a change in mindsets, and this will not happen overnight. Furthermore, the case study lends support to the need for improvements to be made in line with scientific method at the lowest level of the organisation (Spear and Bowen, 1999). As the HMRC case demonstrates, without bottom-up improvement, staff feel like changes are imposed and de-contextualised from the specific nature of the work. At HMRC, the staff declared the standard work instructions as *'not fit for purpose'*, subsequently, many of the staff failed to use them (Radnor, 2010b:420). The research of Radnor (2010b) sheds light on some of the tools used to help implement Lean in the public sector: performance boards, visual management daily meetings and daily problem solving. What was particularly interesting was the resistance towards standard work and a process view of the organisation despite recognition that these tools were powerful. Thus, like manufacturing, again we find that a primary inhibitor of Lean implementation is the traditional mindset of the functional organisation. Finally, a further reflection of Lean implementation in manufacturing organisations, the case studies described in Krings (2006) and Radnor (2010b) suggest a tendency towards the application of tools without an understanding of the principles of Lean (Radnor et al, 2012).

Krings' (2006) study also echoes the contention of Pettersen (2009) and Radnor and Walley (2008) that the approach to Lean implementation depends on the nature and focus of the organisation's goals. The implication is that the research should consider the goals and more generally the context of the organisation in relation to implementing Lean to explore the existence of a relationship between organisational context and the approach to Lean implementation.

In summary, the two models of Lean implementation in the public sector that are described in section 2.7.1 support and compliment the conceptualisation of Lean postulated in section 2.

The next section explores the extant literature relating to the implementation of Lean in healthcare.

Section 2.8 Lean and Healthcare

The English National Health Service (NHS) is described as a publicly funded organisation where there are few markets, customers or prices as would be conventionally understood (McNulty and Ferlie, 2004). The macro context of the NHS resides within a framework of multiple governance structures, independent monitoring bodies, multiple stakeholders and rigorous targets (Lister, 2008).

Reform in the National Health Service could be considered as one of the most *'evocative and controversial'* of political arenas (Ghobadian et al, 2009:1515). Emblematic of the British social contract, representing fairness and opportunity for all the NHS is arguably the most universal and comprehensive of public services (Lister, 2008; Ghobadian et al, 2009). However, the NHS has been 'reformed' and reorganised more times in the last seven years than it has in the previous fifty three since its inception (Lister, 2008).

2.8.1 The rise of Lean in healthcare

A review of 'Business Process Improvement Methodologies' commissioned by the UK National Audit Office finds that 51% of the publications sourced focused on 'Lean' and 35% of those were in the Health Services, making it the most frequently cited process improvement methodology in the health sector today (Radnor, 2010b).

Further evidence of the prevalence of Lean implementation in healthcare is proffered by a sudden and sharp rise of reports in the academic and practitioner literature and 'grey literature' (Young and McClean, 2008; Brandao de Souza, 2009). Balle and Regnier (2007) explain that the double focus of Lean on customer satisfaction and employee involvement suits the culture of most care centres. Gary Kaplan, CEO of Virginia Mason Medical Center (VMMC) in Seattle cites 'stark similarities' between the philosophy of Toyota and the philosophy of healthcare, primarily: putting the customer first, a focus on quality and safety and a commitment to employees (Bohmer and Ferlins, 2006).

2.8.2 Designing for Excellence

In 2005, Spear describes the best performing organisations as those who tightly couple the process of doing the work with the process of learning to do it better as its being done, reiterating the 'rules' that make up the *'DNA of Toyota'* described in Spear and Bowen (1999). In order to achieve this, organisations are expressly designed to reveal problems as they occur. Published in 2005, Spear's early case study research of Lean implementation in healthcare illustrates how two hospitals have designed their operations to diminish ambiguities in the system and to couple the execution of work with its improvement. Spear describes the aim of Lean implementation in this setting to break free of what is typified as a 'work-around' culture where new processes continuously weave around and build upon existing ones regardless of complexity and waste. Spear (2005) describes the work around culture as a response to ambiguity in the system, where people face the same problems everyday for years but they lack the capability to deal with them.

A clear example of a healthcare organisation addressing this work-around culture is the development of a Patient Safety Alert System at Virginia Mason Medical Center (VMMC) in Seattle, USA. This patient safety alert system requires a member of staff to alert management as soon as a medical error or potential error presents itself. Senior management are notified immediately and commit to address the root cause of the problem with the aim of mistake proofing the process to prevent such an occurrence from happening again. The patient safety alert system is an adaptation of the Andon cord (described in part one) after it was observed by VMMC staff on a trip to the Toyota factory in Japan where staff pulled the cord as soon as a problem occurred (Bohmer and Ferlins, 2006). The simple rationale is identical to Toyota's, namely that it is far more efficient to address an identified problem straightaway by halting the process than it is to refer back to it later. In healthcare, addressing such potential errors of medication and clinically related errors can save lives. According to the VMMC website, 14,604 PSAs have been reported from the program's inception in 2002 through 2009. Most reports are purportedly processed within 24 hours — *"a significant improvement from when reports took three to 18 months to resolve"*[10].

2.8.3 The case for Lean in healthcare: Quality and Safety

As a public organisation, the NHS is complex. Hospitals, like many organisations in all sectors are traditionally developed from a functional perspective (McNulty and Ferlie, 2008). Again the impact and limitations of this functional mindset demonstrated in earlier sections (eg. Section 1.1.1) are described in the context of healthcare:

"Typically, care in a hospital is organized around functions. Issuing medication is the responsibility of a pharmacist, administering anaesthesia of an anaesthetist, and so on. The trouble is that the system often lacks reliable mechanisms for integrating the individual elements into the coherent whole required for safe, effective care. The end result is ambiguity over exactly who is responsible for exactly what, when, and how. Eventually a breakdown occurs-the wrong drug is

[10] https://www.virginiamason.org/home/body.cfm?id=5154 accessed 18th May 2010.

delivered or a patient is left unattended. Then, doctors and nurses improvise. They rush orders through for the right drugs, urge colleagues to find available room for patients, or hunt down critical test results. Unfortunately, once the immediate symptom is addressed, everyone moves on without analyzing and fixing what went wrong in the first place. Inevitably, the problem recurs, too often with fatal consequences." (Spear, 2005:4)

Grove et al (2010) describe the consequences of functional organising in healthcare as disjointed care pathways, ambiguous communication, high levels of variation and unresolved errors. The ultimate penalty in healthcare as the Chief Executive of VMMC discovered is the preventable death of a patient (Black and Miller, 2008). The VMMC is not alone in their experience, the Institute of Medicine in the US estimates that around 98,000 people die in any year as a result of medical error (Bohmer and Ferlins, 2006). In the UK, Fillingham reports findings of the National Audit Office for the Department of Health (2005) which highlights that one in ten patients passing through NHS hospitals suffer an adverse event of some kind. Spear (2005) cites US Health care safety expert Lucian Leape in his comparison of the risk of entering an American hospital to that of parachuting off a building or a bridge – there's a good chance you could encounter harm. Black and Miller, (2008) emotionally petition to this safety dilemma in dedicating their book *The Toyota Way to Healthcare Excellence* to readers who are patients or may be patients in the future*:*

"This book is dedicated to all the people of this world who are now or who will become - patients. You come asking only for what you have the right to receive. You expect safe, compassionate care provided by healthcare professionals who make the elimination of waste and defects a daily priority. You expect treatment with no fear of your condition being worsened from the procedures or medications provided, to experience no avoidable uncertainties or concerns, and to be treated as a respected and valued human being. In other words, you have the right to all the benefits of Lean and the Toyota Production System as applied to healthcare." (Dedication)

In the UK, Fillingham (2007) published a paper describing the implementation of Lean in Royal Bolton Hospital Foundation Trust in the UK with the title "Can Lean save lives?" The paper concludes *"the potential is enormous*". Similarly, Gary Kaplan, CEO of Virginia Mason in Seattle – considered the first hospital to implement Lean across the organisation - declares *"Lean works! ... We can create a better, safer, more efficient, and higher-quality health care system if we are willing to embrace these new methods and are truly willing to lead"* (Black and Miller, 2008:xii).

The above evocative declarations imply Lean as a panacea, yet despite evidence of the current prevalence of Lean in the health sector, the implementation of Lean is largely considered patchy (Young and McClean, 2008), fragmented (Proudlove et al, 2008), piecemeal (Balle and Regnier, 2007) and potentially producing a negative impact on the system as a whole (Towill and Chrtistopher, 2005; Waldman and Schargel, 2006). At best, it is argued, a disjointed approach to Lean implementation as suggested in the literature will deliver 'islands of optimisation' and pockets of best practice (Holweg and Pil, 2001; Radnor and Walley, 2008).

2.8.4 Reported Impact of Lean implementation in hospitals – a critical review

Many of the impacts of Lean implementation reported have been in terms of tangible outputs such as reduction of (processing or waiting) time, increase in quality through a reduction of errors, reduction in costs (through less resource and better process design) (Silvester et al, 2004; Wysocki, 2004) as well as intangibles such as increased employee motivation and satisfaction and, increased customer satisfaction (Radnor and Boaden, 2008; Fillingham, 2007). Fillingham (2007) cites additional results of implementation as a reduction in paperwork by 42%, total length of stay reduced by 30% and a reduced rate of mortality by 38%. The author who is also (at the time of writing) the Chief Executive of Bolton and formerly of the Modernisation Agency summarises the potential of Lean at Bolton in the context of implementation challenges:

"our early experience is … the potential is enormous. However the practical difficulties of implementation cannot be overstated and the gains to be had from applying lean in healthcare are only likely to be realized over years or indeed decades, not over weeks or months." (Fillingham, 2007:232)

Gubb (2009) cites achievements of Flinders Medical Centre in Australia who after two and a half years of implementing Lean was doing 15-20% more work, with fewer safety incident, on the same budget, using the same infrastructure, staff, and technology. The same author cites Royal Bolton NHS Foundation Trust having reduced its average turnaround time in pathology from over 24 hours to 2-3 hours using less space and fewer resources. Mazzacato et al (2010) and Grove et al, (2010) refer to improvements in other UK hospitals as a result of Lean implementation cited in academic literature:

"NHS Doncaster redesigned its transient ischemic attack (TIA) pathway by introducing a rapid access one-stop TIA clinic. This has removed between 21 and 41 days from the old TIA pathway of care. Patients requiring vascular surgery are now seen within 48 hours from onset of symptoms – a process that previously took between 50 to 70 days (Tuck, 2009). The Histopathology team at Calderdale and Huddersfield NHS Trust reduced end-to-end turnaround times by 43 per cent in 2006 and are now working towards sustaining the improvements by embedding lean culture through continuous improvement activity (Raja et al., 2008 cited in Grove et al, 2010:206)."

The reported applications of Lean in healthcare described above suggest that while Lean is successfully delivering benefits in healthcare, a systemic, whole organisation approach to Lean is more the exception than the norm. Much of the literature contains isolated examples of best practice that do not appear to take a systemic view of the process, a contention supported by Mazzacato et al (2010). These best practice examples reflect a Rapid Improvement Event (RIE) approach that is focused around short term objectives, designed to address issues quickly that relate to the here and now. For example, Wojtys et al (2009) recount an application of Lean to the patient scheduling process. The rationale for the project

was attributed to the scheduling process being the one that has the vital first impression of a service with no reference to the quality of treatment throughout the entire pathway. Lodge and Bamford (2008) also describe improvements to diagnostic waiting list management through an understanding and matching of demand and capacity. These authors describe isolated applications of Lean tools to healthcare without any data that reflects the extent of Lean implementation across the organisation as a whole adhering to the principles of Lean with a management system that supports and develops Lean Thinking.

In summary, the literature relating to Lean implementation in healthcare is replete with small scale examples of Lean implementation that involve the application of quality improvement tools with limited organisational reach. Thus, the evidence relating to Lean implementation in healthcare supports the contention that implementation tends to produce isolated improvements that are fragmented and pragmatic (Proudlove et al, 2008; Young and McClean, 2008). This approach to Lean implementation challenges the perceived widespread application of Lean in healthcare that the rise of reported applications in the literature (Brandao de Souza, 2009; Radnor, 2010a) and grey literature (Young and McClean, 2008) would lead us to believe.

The case for system wide implementation of Lean in healthcare over piecemeal approaches is put forward in Balle and Regnier (2007). The authors describe how a French hospital successfully implemented Lean focusing the whole organisation initially on basic stability and conclude that Lean, even imperfect Lean, is best used systematically across the whole of the organisation over perfect Lean sporadically. The authors contend that Lean is a system of thinking and learning, not a set of tools. Thereby 'basic stability' is essential.

"In Lean, basic stability is absolutely essential to create the proper learning environment where employees can see clearly the impact of their actions and then learn through the kaizen activities" (Balle and Regnier, 2007:35)Virginia Mason Medical Center in Seattle (USA), Flinders in Australia and the Royal Bolton NHS Foundation Trust in the UK have become seminal examples of Lean implementation in health care settings (see Bohmer and Ferlins, 2006; Ben-Tovim et al, 2007; and Fillingham, 2007; 2008).

2.9 Implementing Lean in healthcare

Section 2.8 highlights the limitation of the extant literature in describing predominantly isolated examples of best practice with reports of impact largely anecdotal and lacking in any quantitative evidence that Lean in improving performance of healthcare organisations. In view of this limitation, section 2.9 develops a focus upon three prominent examples of hospitals implementing Lean across their organisations as examples of how Lean can be implemented across a whole hospital.' Table 2.4 below uses a number of a priori constructs to evaluate Lean implementation in three hospitals. Each of the selected hospitals has been documented extensively in academic literature and this forms the basis of the evaluation. The hospitals are categorised as 'exemplar' on the basis that they have been implementing Lean for more than five years and have ostensibly adopted an organisation wide approach; they are also frequently cited examples in academic literature and represent examples of Lean implementation across three continents. In 2006, Bohmer and Ferlins published a Harvard Business Review case study detailing the Virginia Mason Production System (VMPS) at Virginia Mason Medical Centre; in 2007, David Ben Tovim, senior clinician at Flinders Medical Centre in Australia and Royal Bolton's CEO, David Fillingham, published papers describing Lean implementation in their corresponding organisations (see Ben Tovim et al, 2007 and Fillingham 2007, 2008 respectively).

Whilst restricted to publically available documentation of Lean within these organisations, the comparison presented in table 2.4 permits an insight into the characteristics of Lean implementation in healthcare using frequently cited examples.

Table 2.4: Comparison of Lean implementation in hospitals in America, Australia and the UK

	Virginia Mason Medical Center, America	Flinders Medical Center, Australia	Royal Bolton Hospital NHS Foundation Trust, UK
		Context	
Prior to Lean implementation	Ardent competition; safety spotlight following report that 98,000 people die in the US from medical errors in hospitals. The hospital was losing money: "double digit millions…we change or we die" (Gary Kaplan, CEO cited in Bohmer and Ferlins, 2006)	Capacity problems and congestion; frequent elective cancellations due to inability to match capacity and demand; high levels of staff turnover; safety becoming compromised; "viability of key clinical services undermined" (Ben-Tovim et al, 2007:11)	High mortality; spiralling financial deficit; long waits for diagnostics and many treatments; "future of hospital as viable entity was in question" (Fillingham, 2007).
Introduction to Lean	Began Lean implementation following chance meeting of VM's president Mike Rona with John Black (2001). Virginia Mason became the first to integrate Toyota management philosophy throughout its entire system.	Discovered process mapping from the website of the NHS Modernisation Agency in the UK (2003) and was introduced to Lean following subsequent visit to Modernisation Agency in the UK	Director of the NHS Modernisation Agency became Chief Executive of Royal Bolton in 2004.
Lean orientation	System: 'Virginia Mason production System'. Lean across whole organisation. Emphasis on patient safety and quality, VM's vision was to be the Quality Leader in healthcare. The vision requires "adopting a paradigm shift from expecting errors and defects to believing that the perfect patient experience is possible.	Change program: 'Redesigning Care'. Lean across whole organisation. Emphasis on improving patient flow NOT changing clinical practice.	System: 'Bolton Improving care system' (BICS). Lean across whole organisation.

Implementation			
Early days implementation	Pilot: visit to Japan	Priority application: Emergency Department	Priority application: Relative mortality for Fractured Hip was 70% higher than the expected chance of death. The urgency of this metric meant that this was first area chosen for trial with Lean.
Tools and Techniques	Value Stream Mapping (VSM) a main tool for VMPS, Kaplan saw the VSM as foundation of VMPS: "unless you understand the steps you cannot see the waste, you cannot see the opportunity, you cannot see the defects" (p.8). VSM is the first step of RPIW (rapid process improvement workshop). 5S and standard work are essential components. Patient Safety Alert System (*Jidoka*); Bundled care (checklist for care bundles); 3P (production, preparation and process) is an improvement strategy to radically redesign space and flow. Zero defects and mistake proofing.	Process Mapping, product streaming and cells. PDCA cycles initiated on improvement opportunities that drop out of process mapping.	Process mapping, 7 week rolling RIEs. 'True North' goals and policy deployment; daily problem solving. Simple visual standard work; 6S; 'go and see' where managers identify 3 problems weekly and work with staff to identify and make improvements. Executive board meets monthly to consider the previous months improvement activity checking that expected results have been delivered and asking questions as to why if they have not.
External/Internal implementation teams and Infrastructure	John Black, external consultant: John Black Associates. VMPS infrastructure consists of Kaizen Promotion Offices (KPOs) responsible for overseeing, coaching units through RPIWs and Everyday Lean.	Not known, Ben-Tovim (2007) describes visit from a senior executive of the NHS Modernisation agency early on but no other mention of external consultancy. A centre for Redesigning Care and a redesigning care team is established (see http://www.flinders.sa.gov.au)	Simpler external consultants. An internal change team known as the BICS team facilitate

Training	Educational courses include an introduction to VMPS and Every day Lean 'how-to' courses on VSM and mistake proofing.	Basic Lean training days for large volumes of staff plus intensive training for staff who will be key participants in specific programs of work	BICS Academy, accreditation from green to bronze, silver, gold and platinum. All new staff receive green level training.
Complexities and tensions			
Resistance	- "we don't make cars, we treat patients" - Standardisation perceived to threaten professional ability, stifle autonomy and creativity. - Resistance and discomfort of change	Juxtaposition of problem solving techniques. Mid to senior managers typically fire-fighting vs the slower bottom up approach of Lean thinking that requires managers to facilitate decision making by others rather than taking decisions and pushing solutions for others to implement.	Resistance from staff; too busy and time consuming and counter cultural for NHS: Revelation that good quality can cost less not more is something staff will rarely accept but are beginning to evidence. A distraction from targets: in the long term BICS is considered as a sustainable way of achieving targets and financial balance.

2.9.1 Discussion and comparison of three experiences of Lean implementation in hospitals in America, Australia and the UK

Using data from three published case studies of ostensibly systemic implementation of Lean in hospitals in the US (Bohmer and Ferlins, 2006), Australia (Ben-Tovim et al, 2007) and the UK (Fillingham, 2007, 2008) a discussion of the key findings are divided into three key areas of analysis: context, process of implementation and complexity and tensions.

Context

1. *Crisis and leadership commitment* - All three case studies exhibit a very similar context, starting from a crisis standpoint where the viability of the organisation has become questionable. VMMC and Royal Bolton were compelled towards Lean at the instigation of the Chief Executive and a drive towards a goal of quality and safety; the instigator of Lean at Flinder's is David Ben-Tovim, a senior consultant. Similarly, all three organisations demonstrate stable leadership where the principal instigators have been in post for a number of years.

2. *Commitment to organisational change:* VMMC and Flinders emphasise the need to change to survive: Flinder's declare a 'change program', entitled 'Redesigning care' (Ben-Tovim et al, 2007), whilst VMMC declares a situation of 'change or die' (Bohmer and Ferlins, 2006), a paradigm shift to believing the perfect patient experience is possible. Facing an equally pressing circumstance, Royal Bolton takes a more iterative approach spending a year experimenting with the concept of Lean before they decided to launch it across the whole organisation (Fillingham, 2008). Both VMMC and Royal Bolton describe the need to get buy-in from the Executive Board.

3. *Introduction to Lean:* Royal Bolton and Flinders were both introduced to Lean via the UK's Modernisation Agency (since dissolved). VMMC's journey had a rather more auspicious beginning with a chance meeting mid-air between John Black and Mike Rona, Chairman of VMMC (see Black and Miller, 2008).

Process of Implementation

1. *Initial Priority projects:* Flinders and Bolton were facing compelling problems directly affecting patient safety (Ben-Tovim et al, 2007; Fillingham, 2007). Both organisations begin Lean implementation in these identified areas. Virginia Mason as described in Bohmer and Ferlins (2006), makes no mention of the initial projects.

2. *Learning to see:* All three organisations report the use of process mapping as a central starting point of Rapid Improvement Events (RIEs) (also known as Rapid Process Improvement Workshops (RPIWs) or Kaizen events). These events bring together a cross functional group of people to consider a process and identify ways to improve efficiency and flow. Many people report the power of the process mapping activity, often people 'see' the whole patient pathway for the very first time (Fillingham, 2007). Whilst powerful in promoting a new and collective understanding, this aspect of the RIE can also be quite unsettling as staff begin to acknowledge how much waste is present in the system. The importance of this stage is in getting the cohort of staff involved in the RIE to agree that problems exist (Fillingham, 2007). Fillingham (2007) also advocates RIEs (of which process mapping is the first step), are fundamental to embedding change.

3. *Structured Problem identification and Solving skills* – An emphasis upon problem solving is evident in all three organisations. VMMC and Royal Bolton both require a continuous approach to problem identification and problem solving with techniques such as 'Everyday Lean' (at VMMC employees are encouraged to creatively change their approach in order to reduce waste and add value) and similarly 'go and see' at Royal Bolton. Ben-Tovim et al (2007) do not describe such a system at Flinders but do describe the use of PDCA cycles to address improvements that drop out of the process mapping. Visual management, 5S and standard work are also key tools and techniques identified as important at VMMC and Royal Bolton.

4. *Rigorous application of Lean Tools* – VMMC describe a number of tools and techniques that make up the VMPS, similarly, Fillingham (2007) advocates a rigorous application of tools whilst reinventing them in own context.

5. *Infrastucture* – all three organisations have in place an internal central infrastructure to embed Lean across the organisation. It is less clear about the extent of influence of external consultants as these are not really mentioned by any of the organisations. It is suggested that external consultants were useful in the early days of Lean implementation at VMMC and Royal Bolton, however there is no evidence of external consultants at Flinders.

6. *Training* – Training with regards to Lean Thinking is evident in all three organisations, with Royal Bolton ostensibly having the most progressive scheme of training to develop a core team of people to 'platinum' standard within the organisation (Fillingham, 2008).

Complexities and Tensions

1. *Resistance to change* – All three organisations reflect this problem, and the notion that change is counter cultural for the NHS. Ben-Tovim et al (2007) suggest a behavioural shift needed by mid and senior managers from a command and control style of management to one of facilitation and guidance. Fillingham (2007) asserts that the notion of better quality actually costing less is counter intuitive and evidence is needed to get them on board. The Chief Executive of VMMC asserts that resistance tends to disappear and momentum builds when people see results that actually change their daily work lives and improve the patient experience (Black and Miller, 2008).

In summary, some striking similarities exist of context, implementation and complexities faced in all three organisations. VMMC and Royal Bolton have ostensibly embraced Lean as a system for improvement that closely resembles the principles of the TPS. Flinder's approach to Redesigning Care focuses very much on

patient flow in the Emergency Department and elective surgery pathways as opposed to a more all-encompassing approach, whereby Lean becomes the *fabric of daily working lives* (Corbett, 2007). Naturally, this is not an in-depth evaluation of Lean in any of the above organisations as the information is limited to that which is available in the academic and practitioner literature; thereby it represents a document analysis approach. Interestingly, the results reflect that all case studies intertwine a combination of the tools, systems and principles of Lean as identified in the working definition stated in Part One.

2.9.2 Summary and implications for research

Part two of this chapter presents a compelling case for the implementation of Lean in healthcare related in particular to quality and safety. The academic literature points to a number of successes of Lean implementation in relation to reducing waiting times, reducing errors, reducing process times, reducing costs and so on but many of these applications are found to be descriptions of isolated approaches to Lean that contrast greatly with the implementation of Lean by VMMC, Flinders and Royal Bolton detailed in section 2.9.

Evaluation and analysis of organisation wide implementation of Lean in three hospitals (table 2.4) using available academic literature suggests that Lean can work in healthcare. All three organisations have aspects of context in common, in particular the top-down instigation of Lean implementation. All three case studies implement Lean in response to a crisis that has implications for the viability of the organisation and the safety of patients; this crisis situation resonates with that of Toyota described in Part One. Training in Lean was prominent in all three case studies supporting the contention of section 2.2.5 that education is an important part of enabling Lean. The approach to Lean in these ostensibly exemplar examples did differ however with a distinctly programmatic approach to Lean implementation in Flinders to 'redesign care' as opposed to the system wide strategy of becoming a Lean organisation exemplified by Bolton and VMMC.

Complexities and tensions faced by all three case studies echo the literature in that a change in mindset is essential to implementing Lean, and thus an approach to Lean implementation is about changing the way we think. Collectively this translates as

changing culture; in the context of Lean implementation in healthcare Mann (2009) describes culture as the sum of how those in an organisation would describe *"the way we do things here".*

Summary of key themes:

- Part two continues to highlight the relationship between context and the implementation of Lean, where a public sector context poses specific complexities relating to the identification of 'value' from the perspective of the customer.
- Section 2.8 highlights the limitations of the extant literature in presenting mainly isolated applications of Lean in healthcare that provides primarily anecdotal evidence of the impact of Lean upon performance. To date there appears to be a dearth of literature that is able to evidence the impact of Lean upon organisational performance.
- The influence of context at an organisational level is also highlighted in section 2.9 as we explore the implementation of Lean using three examples where Lean has been implemented across the whole organisation

In summary, part two facilitates the identification of a gap in knowledge pertaining to the impact of Lean upon organisational performance and a limited apprehension of the impact of context upon the implementation of Lean.

Part Three: Summary of the evidence and implications for research

2.10 Recurring Themes

In exploring the phenomena of Lean in this chapter a number of recurring themes are identified:

2.10.1 What is Lean?

Part one was dedicated to exploring the phenomena of Lean in pursuit of a definition that would guide the thesis. In doing so, rather than concluding with an absolute definition it was found that Lean was rich in nuance (Taylor and Taylor 2008) and thus any definition of Lean would at best serve as a guide. Womack and Jones (1996) offer five principles of Lean to guide implementation whilst Spear and Bowen (1999) confer four rules; alternatively Osono et al (2008) refer to the interaction of hard and soft dimensions whilst Ohno himself declares *"Improvement is never-ending – and by writing it down, the process would become crystallized"*. Thus, an absolute definition is perhaps not appropriate and a conceptualisation of the philosophy of Lean consisting of interdependent parts is more fitting. Aligned to this, the research conceptualises Lean as consisting of three essential interdependent parts: a set of principles, a system perspective, and quality tools and approaches (Ohno, 1988; Womack and Jones, 1996; 2003; Spear and Bowen, 1999 Emilliani, 2008; Näslund, 2008; Dahlgaard and Dahlgaard-Park, 2006; Towil, 2009). Part one also highlights the importance of education and training in Lean methodology as an important enabler of Lean implementation.

2.10.1.1 Lean in healthcare

There is evidence to suggest that Lean implementation is widespread in healthcare (Radnor, 2010a; Young and McClean, 2008). However, Lean implementation is often portrayed in the literature at a local level leading a number of authors to conclude that Lean implementation in healthcare tends to be patchy and fragmented, focusing on an application of improvement tools rather than a system wide approach underpinned by Lean principles (Waldman and Schargel, 2006; Young and McClean, 2008; Proudlove et al, 2008). However, three examples of system wide implementation of Lean are identified in the literature and discussed in section 2.9 suggesting that Lean can indeed work in healthcare.

Chapter two finds a deficiency in the literature regarding how Lean is implemented in hospitals aside from the description of small isolated projects (with the exception of the three cases discussed in section 2.9), thus supporting the contention that hospitals are primarily using Lean methods and tools in a discrete and pragmatic fashion, rather than taking a systemic organisational approach advocated by many authors and recommended in Balle and Regnier (2007).

The extant literature therefore highlights variance in the approach to Lean implementation between organizations who implement a few discrete isolated projects and a small number of organizations that appear to be successfully implementing Lean across their whole organization. Pettersen (2009) also picks up on this given his endeavour to distinguish between four discernible approaches to Lean implementation, although he provides no empirical justification for his assertion. Broadly, chapter two identifies a research gap relating to the characterisation of *how* Lean is implemented by English hospitals, thus leading to the following research question:

Can different approaches to Lean implementation be characterised in English hospitals?

2.10.2 Lean and performance

Early exploration of the TPS was borne out of a quest to understand the superior performance of Toyota as discussed in Part one. The critical question then is whether hospitals that are implementing Lean are actually outperforming or improving at a greater rate than those who are not. There appears to be a significant research gap in the literature relating to the impact of Lean on organisational performance, a contention supported by Holden (2011). Healthcare specific literature reveals a number of quantitative measures at a local level in terms of a reduction in waste such as a reduction in process steps, journey times, set-up times etc but there appears to be no evaluation of the impact of Lean on overall hospital performance. The second research question endeavours to evaluate quantitatively the existence of a relationship between hospital performance and Lean implementation by drawing upon the national performance scores of English hospitals to ascertain:

Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?

2.10.3 Lean and context

Unique challenges of Lean implementation in the public sector are described in part two, specifically, the relatively high velocity of the macro context in terms of changes to regulatory control and recurrent reform coupled with the existence of multiple stakeholders and multiple lines of governance alongside transitory leadership at a local level.

The importance of context in terms of Lean implementation emerges throughout the literature review and is discussed in part one and part two of this chapter. Part one focuses primarily on the complexities of Lean implementation, in particular the counter intuitiveness of particular Lean practices such as just in time (JIT) (Oliver, 2008). Denison (1997) was incisive in his early acknowledgement of the challenge faced by organisations in terms of the requirement to change mindsets from the traditional principles of functional organising that had been adhered to for more than fifty years, to a process perspective. The limitation of a traditional functional perspective is made clear in section 2.1 in discussion of early attempts to implement

Lean outside of Japan (Schonberger, 2007). In section 2.8.3 the same consequence of functional mindsets is described as a culture of 'work-around' in relation to a hospital setting (Spear, 2005).

Näslund (2008) argues that in order to create a readiness for change an organisation must adopt a systems view, and to do so, education and training is necessary. In presenting examples of a successful implementation of Lean section 2.9 highlights similarities of internal context between VMMC, Flinders and Royal Bolton, in particular a 'crisis' coupled with leadership commitment to organisational change. Education and training was also found to be prominent across all three case studies.

As already noted, the influence of context upon Lean implementation has been a consistent theme throughout chapter 2. The influence of context can be summarised at three levels:

i. External environmental context: Economic and political influences.

The TPS is considered to have developed in response to a difficult economic environment in Japan (Holweg, 2007; Cusumano, 1988). In the public sector, we see a similar foundation where a rise in Lean implementation is attributed to the call for efficiency gains in the public sector in reports such as the Gershon Review (Radnor and Walley, 2008). The current government asserts that the NHS is to operate in the context of 'severe constraint on spending' coupled with the requirement of the NHS to deliver £10bn of savings by 2012/13 (NHS Operating Framework, 2010/11:1).

ii. Internal environmental context: Organisational crisis and leadership commitment.

Analysis and comparison of Lean implementation in hospitals using the frequently cited case studies of Virginia Mason in America, Flinders Medical Centre in Australia and Royal Bolton Hospitals in the UK (see section 2.9) finds an organisational crisis coupled with leadership committed to change (via Lean implementation) as a common denominator between Lean implementation in these three exemplary case studies.

iii. Individual context: Resistance to change by management and medical consultants.

The extant literature frequently identifies the importance of management engagement and buy-in yet analysis and comparison of Lean implementation in hospitals using the frequently cited case studies of Virginia Mason in America, Flinders Medical Centre in Australia and Royal Bolton Hospitals in the UK (see section 2.9) finds resistance to change a key limitation of Lean implementation. All three organisations reflect this problem, and the notion that change is counter cultural for the NHS.

The third research question therefore reflects the importance of context in terms of evaluating Lean implementation in healthcare:

Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?

2.11 Research Questions

The overarching aim of this thesis is to evaluate Lean implementation in English hospitals. Following a review of the extant literature, three specific research questions are identified:

RQ1. Can different approaches to Lean implementation be characterised in English hospitals?

RQ2. Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?

RQ3. Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?

Chapter 3: Knowledge Paradigms and Research Communities

3.0 Chapter Summary

The research gaps identified at the end of Chapter 2, *Exploring Lean* have led to the articulation of three research questions. The researcher believes that these questions are best answered using both qualitative and quantitative methods as part of a constructivist paradigm. In brief, using both qualitative and quantitative methods enables the research to evaluate the implementation of Lean in English hospitals from different perspectives providing an additional viewpoint of the data in relation to the impact of Lean in English hospitals. The research design reflects more than just a triangulation of research methods as the research mixes the emergent findings of qualitative data analysis to consider the impact of Lean using a quantitative perspective; thereby the approach is defined as a 'mixed methods' approach.

In light of a mixed methods research design, this chapter begins with an outline of the knowledge paradigm debate. Part one presents the divergent views around qualitative and quantitative methods and attempts to disentangle some of the confusing rhetoric around the nature of competing worldviews in relation to knowledge and *'how we know'*. This overview and requisite disentangling of the literature relating to knowledge paradigms helps to establish a rationale for a mixed methods approach within a dominant constructivist paradigm.

Part two describes a mixed methods research strategy in detail and depicts a framework for the research design. Finally, part three discusses the research methods in detail with particular attention to the precise nature of data collection and analysis.

To summarise, this chapter identifies the adoption of a constructivist knowledge paradigm and the use of mixed methods within this paradigm; describes a mixed method research strategy; and outlines the specific methods employed in the collection of data collection and subsequent analysis.

Part 1: The Knowledge paradigm debate

3.1 Background to the knowledge paradigm debate

Grbich (2007:3) identifies epistemologies as *"dealing with questions about 'truth': what do we accept as truth? And how has this been constructed?"* More definitively, epistemology is about our 'worldview', i.e. the way that we look at the social world (Matthews and Ross, 2010). A research paradigm or 'knowledge' paradigm is a broader conceptualisation of a 'world view' incorporating the assumptions typically associated with that view (Tedlie and Tashakkori, 2009).

Traditionally, the knowledge paradigm of the researcher predominantly falls into either a quantitative/positivist or qualitative/interpretive view (Creswell, 2003). In brief, a positivist view determines that reality is something that can be observed and measured thus entailing a numerically based quantitative research design. The constructivist view - as the name suggests - is one that perceives the nature of reality to be socially constructed, and that people experience reality differently, including the researcher themselves, and thus many realities can exist based on an individual's personal perception and recollection of their experience (Creswell, 2003; Krauss, 2005). Creswell (2003) posits that these two worldviews actually represent polar ends of a continuum between research that employs mainly scientific methods of induction that are argued to be objective in nature at one end, with interpretive methods that tend to be qualitative, subjective and deductive at the other.

By its very nature, a mixed methods research design implies that the researcher has an understanding and appreciation of both the positivist paradigm associated with mostly quantitative methods as well as the constructivist/interpretive paradigm associated mostly with qualitative methods. Thus in order to present clarification and rationale for the use of a mixed methods research design, part one explores the two traditionally polarised views of 'positivism', where reality is observable and measurable, and 'constructivism' where reality may be experienced differently depending on *'social and contextual influences and/or presuppositions'* (Moses and Knutsen, 2010:10). Section one is consequently split into three sub-sections that discuss the evolution and

core principles of a positivist paradigm; the core principle of a constructivist paradigm and the subsequent emergence of a mixed methods approach to research.

3.2 Positivism/Post-Positivism

A brief historical sketch of positivism here helps the researcher to establish the polarity of the positivist research paradigm in contrast with the constructivist approach. Hjørland (2005) presents a detailed historical sketch of the development of positivism as a scientific method during the 17th and 18th Century attributing to an attempt to reconcile the doctrine of empiricism (that postulates knowledge can only be acquired through experience, observation and sense data) with rationalism that rejects the importance of observations and experience.

Creswell (2003) adopts the term Post-positivism which he explains is a necessary adaption of the positivist paradigm in recognition that we cannot be "positive" about our claims of knowledge and thus as Karl Popper theorised, we should not be concerned with the ability to prove a good theory, rather a good theory is one that follows the principle of falsification. For example, the statement *"all ravens are black"* is a scientific statement because it is falsifiable. Statements that are not falsifiable, for example, questions concerning religion, are considered meaningless under the positivist approach as they cannot be scientifically proven or falsified. Phillips and Burbules (2000) extend this concept with the example of a proposition that claims a musician such as Sir Paul McCartney is more creative than a classical pianist such as Wolfgang Amadeus Mozart; as there are no scientific constructs for measuring this or falsifying the statement, to argue such is meaningless under the positivism tradition.

Hjørland (2005) reflects upon the growing criticism of positivism during the 20th Century with the emergence of opposing traditions that emphasise cultural influence, interests and a theory-laden nature of knowledge. Despite this heavy and sustained criticism of the positivist tradition Hjørland (2005) argues that the positivist way of thinking is still considered influential on the basis that no alternatives have yet been able to establish a strong position in the practical guidance of research processes.

In summary, the positivist approach to research assumes that knowledge is objective, can be observed and measured, and tested empirically to the falsification principle; the researcher himself thereby is not considered to have impact on the data (Matthews and Ross, 2010; Moses and Knutsen, 2007; Creswell, 2003).

Despite criticism that spans several centuries, positivism remains a tradition of continued merit and influence. In practical terms, positivism is a reductionist approach in that the intent is to reduce the ideas into a small discrete set of ideas for hypothesis testing (Creswell, 2003). Positivism is mostly associated with quantitative research methods to research using deductive logic, experimental research design and typically numerical methods such as numerical scales, surveys, descriptive statistics and correlation analysis (Tedlie and Tashakkori, 2009).

3.3 Constructivism/ Social Constructivism/ Interpretivism

According to Creswell (2003), the ideas of social constructivism originate from Berger and Luckmann's works *The Social Construction of Reality* (1967) and Lincoln and Guba's *Naturalistic Inquiry* (1985). Moses and Knutsen (2007) acknowledge that constructivism is also known by a variety of names, most commonly 'interpretivism'. In contrast to the positivist approach, the interpretivist/constructivist paradigm views reality as socially constructed, and a product of our own making that is *not* always observable. Moses and Knutsen (2007:10) explain: *"each of us see different things, and what we see is determined by a complicated mix of social and contextual influences and/or presuppositions"*. Thus the main focus is upon subjectivity, how people interpret the social world and social phenomena and the data gathered is used to generate theory (Matthews and Ross, 2010). In practical terms, constructivism is mostly associated with qualitative research methods using inductive logic and ethnographic research design often to explore phenomena and thematic strategies of categorising and contextualising data (Tedlie and Tashakkori, 2009).

Blaikie (1993) describes the meaning of a constructivist/interpretive view in terms of conducting research:

'for interpretivism, the social world is the world perceived and experienced by its members from the inside. Hence the task of the social scientist is to discover and describe this insider view, not to impose an outsider view on it' (Blaikie, 1993)

This view provides a stark contrast from a positivist view where the laws of natural science require that phenomena is observable, measureable and therefore knowable. Constructivism views human action as variable and intimate and thus the way phenomena is experienced (in this case the implementation of Lean by English hospitals), is thereby subject to social and contextual influences and/or presuppositions.

3.4 Taking a middle road: The 'Third Methodological Movement'

An interesting aspect of Hjørland's 2005 article that informed section 1.1 with regards to the evolution of positivism is the suggestion that positivism is often misunderstood. That the majority of positivist researchers do not identify with many of the widely held assumptions about what positivist research entails. This reflection is recounted in Weber (2004) where the author (writing as *Editor of MIS Quarterly*), reproduces a table that is commonly used to summarise the differences between the two research paradigms for the purpose of teaching (see Table 3.1). Weber (2004) addresses each of the constructs in turn explaining why the differences are far less pronounced than the table suggests, arguing that there are in fact many similarities between the two paradigms. In conclusion, Weber (2004) writes: *'Different research methods and different data-analysis methods have different strengths and weaknesses. They provide us with different types of knowledge about the phenomena that are our focus.'*

Table 3.1: Contrasting Positivism with Constructivism (Source: Weber, 2004)

Meta-theoretical assumptions about:	Positivism	Constructivism
Ontology	Person (researcher) and reality are separate	Person (researcher) and reality are inseparable
Epistemology	Objective reality exists beyond the human mind	Knowledge of the world is intentionally constituted through a person's lived experience
Research Object	Research object has inherent qualities that exist independently of the researcher	Research object is interpreted in light of meaning structure of person's (researcher's) lived experience
Method	Statistics, document analysis	Hermeneutics, phenomenology, etc.
Theory of Truth	Correspondence theory of truth: one-to-one mapping between research statements and reality	Truth as intentional fulfilment: interpretations of research object match lived experience of object
Validity	Certainty: data truly measure reality	Defensible knowledge claims
Reliability	Replicability: research results can be reproduced	Interpretive awareness: researchers recognise and address implications of their subjectivity

3.4.1 All research is interpretive!

Gummesson (2003) argues that all research is interpretive from the beginning to the end and everything in between. Gummesson suggests that polarising quantitative and qualitative research is a 'red herring', providing distraction from the important choices regarding the research methodology and techniques that support validity.

> *"How do we get access to reality and how do we get results that are good fits to reality? Both depend on how we generate, analyse and interpret our data, be it number or words. Statistical tables need interpretation just as badly as data from in-depth interviews and focus groups"* (Gummesson, 2003:486)

The practical implication of a mixed methods approach is that the researcher should be conversant with both positivist and constructivist traditions and be able to use research methods that require quantitative and statistical skills as well as qualitative methods of data collection and analysis.

Part Two: Developing a Research Strategy aligned to the Research Aim

3.5 Defining a Mixed Methods approach

Authors writing about the use of a mixed methods research design endorse explicitness in the presentation of a 'mixed methods' definition through to a clear justification of its use and a discussion of its increasingly widespread use (see Creswell, 2003 and Collins and Cathain, 2009).

Tashakkori and Teddlie (2003:711) define mixed methods as:

> *"a type of research design in which qualitative and quantitative approaches are used in types of questions, research methods, data collection and analysis procedures and/or inferences"*

Some authors emphasise a distinction between mixed methods research design and a more linear application of multiple methods, where *'mixed methods require both qualitative and quantitative methods and multiple methods mean that the researcher uses more than one method, but the choice of method reflects either quantitative or qualitative approaches but not both'* (Mertens, 2009:165-166).

Creswell and Plano Clark (2007) are more prescriptive:

> *"…it is more than simply collecting and analyzing both kinds of data; it also involves the use of both approaches in tandem so that the overall strength of a study is greater than either qualitative or quantitative research"* (Creswell & Plano Clark, 2007:5).

The benefit of using a mixed method research design is in overcoming the biases and limitations of any single method (Creswell, 2009). Tahakkori and Tedlie (1998) go further in stating that a mixed methods approach goes beyond the initial goal of triangulation (confirmation of results using different methods or data sets), in actually using multiple methods to also gain a better understanding (comprehension) of results, discover new perspectives, or develop new measurement tools. This is particularly

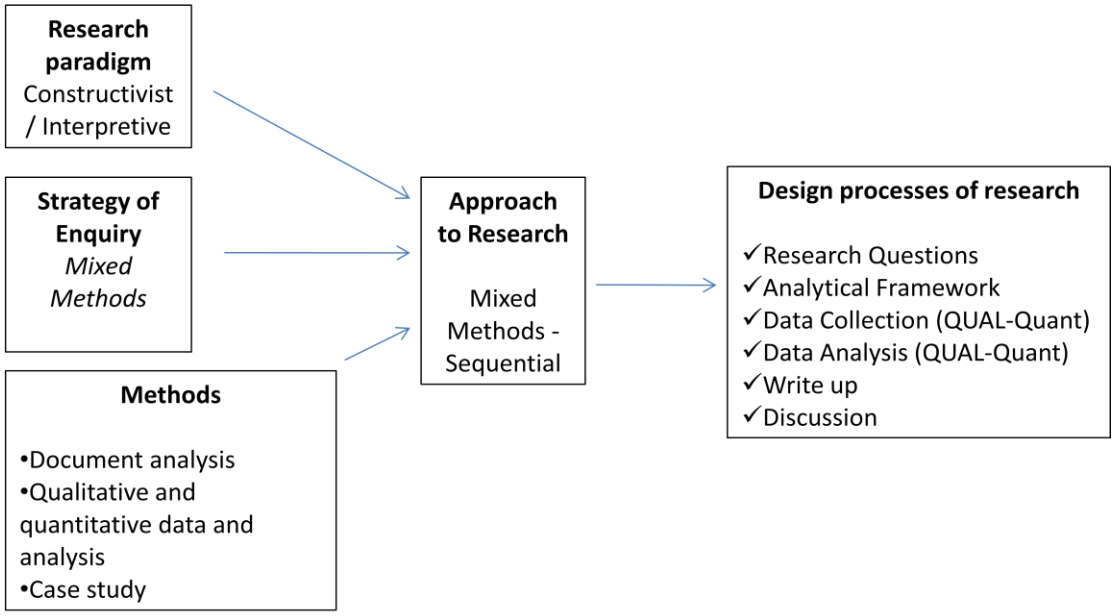
relevant to the central aim of this research: 'exploring Lean implementation in healthcare' where the extant literature suggests Lean is having an impact on performance in terms of tangible outputs such as reduction of (processing or waiting) time, increase in quality through a reduction of errors, reduction in costs through a reduction in resource utilization and better process design (Silvester et al, 2004; Wysocki, 2004) as well as intangibles such as increased employee motivation and satisfaction and, increased customer satisfaction (Radnor and Boaden, 2008; Fillingham, 2007). There is however, little evidence in the literature concerning the impact of Lean from an organisation performance perspective, thus using mixed methods this research can provide an additional and unique perspective of the impact of Lean in English hospitals.

Teddlie and Tashakkori (2009) like other authors (eg. Creswell, 2003) note the centrality of the research question in guiding the methodology and specific methods. The authors also note the required skill of the researcher to traverse back and forth seamlessly between the two main traditions employing both statistical and thematic analysis; this could be considered a potential drawback. Dunning et al (2007) also note the additional time needed to undertake the study and its analyses when using more than one method.

3.6 Designing a Mixed Methods approach

In designing research, Creswell (2003) advances the earlier work of Crotty (1998) in promulgating the use of a framework that seeks to establish the combination of philosophical ideas (research paradigm), the strategy of enquiry (i.e. objective, subjective, mixed) and the corresponding research procedures (methods). Figure 3.1 adapts Creswell's framework to explicitly state the research position of this thesis and the corresponding methods and research design.

Figure 3.1 Exploring Lean: A framework of the research design (Source: adapted from Creswell, 2003)



3.6.1 A 'sequential' mixed methods approach to research

Some authors advocate a specific framework for developing a mixed methods research design. For example, Teddlie and Tashakkori (2009) recommend developing one mixed methods question that serves as an overarching question and this question can be extended into qualitative and quantitative sub-questions; alternatively Creswell and Plano Clark (2007) advocate separate quantitative and qualitative questions, followed by the development of a mixed methods question framing integration of the findings from both phases of the study. Other authors suggest that the number of models are many and varied and constantly evolving (Thomas, 2003). Creswell (2003) differentiates between a concurrent mixed methods research design and a sequential mixed methods research design. A concurrent design refers to the simultaneous occurrence of qualitative and quantitative methods whereas a sequential research design is typified as having two distinct phases of data collection one after the other with the results of the two phases integrated in the interpretation stage.

In selecting a sequential mixed method research design, the research employs primarily qualitative methods to explore the phenomena of Lean in healthcare and combines this qualitative data with quantitative methods to evaluate whether there is

any quantitative evidence for improved organisational level performance as a consequence of Lean implementation.

3.6.2 Research Methods

Table 3.2 summarises the blend of research methods for data collection in relation to the research questions (the methods are elaborated in detail in Part 3 of this chapter). The sequential mixing of methods allows the research to build a detailed picture of how Lean is implemented in English hospitals from a constructivist paradigm, firstly by using the document analysis data to explore the existence of divergent approaches to Lean implementation and secondly by cross referencing this data with published performance data to evaluate whether there is any quantitative support for the impact of Lean implementation in English hospitals at an organisational reporting level (research question 2). The design type is summarised using the notation customary to the mixed methods research community and outlined in Leech and Onwuegbuzie (2009) as QUAL=> quant, where the capital font denotes a dominant paradigm, and the arrow identifies the research as sequential.

Table 3.2: Application of a Sequential Mixed Methods research design for this research

Research Question	**Research Methods**
RQ1: Can different approaches to Lean implementation be characterised in English hospitals?	**QUAL-quant** methods: • Document analysis • Descriptive statistics • 4 semi-structured case studies
RQ2: Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?	**QUANT-qual** methods: • Non-parametric testing of emergent findings of the document analysis with performance data published by the Care Quality Commission, thereby embedding and 'mixing' qualitative data and analysis with quantitative data and analysis.
RQ3: **Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?**	**QUAL-quant** methods: • Document analysis • 4 semi-structured case studies

3.7 Lean implementation and 'changing'

This research aims to explore and evaluate the phenomena of Lean and its implementation in a healthcare context, specifically English hospitals. The literature review presented in Chapter 2 *Exploring Lean* concludes that Lean is widespread but often fragmented and pragmatic in its implementation. Furthermore, the extant literature suggests that the phenomenon of Lean is rich in nuance and concerned with 'change': changes in the way operations and processes are managed from functional to process based work flows (or patient flows) and ultimately, changing mindsets (see Westwood and Silvester, 2006). Change of this order does not occur overnight; as discussed in Chapter 2, Lean is not a silver bullet solution it is best described as a journey. Thus any research design that seeks to evaluate Lean implementation needs to incorporate data collection methods that will facilitate a dynamic and holistic analysis of '*changing'*, allowing the change process to reveal itself temporally and contextually (Pettigrew et al, 1992).

> *'The overriding aim of the process analyst … is to catch reality in flight'* (Pettigrew, 1997:338)

Describing the meaning of process as *'a sequence of individual and collective events, actions and activities evolving over time in context'*, Pettigrew (1997:338) is portraying the essence of a processualist approach as one that is holistic and dynamic, where *'human conduct is perpetually in a process of becoming'*. In his early study of ICI, Pettigrew (1985) notes that the majority of studies of change tend to be a-historical, a-contextual and a-processual, regarding change as if it were a discrete occurrence that takes place independently of the multivariate context in which it is embedded. Pettigrew (1985) identifies the concept of *changing* as important and thus argues for a more holistic and dynamic analyses of organisational change.

Pettigrew's (1985) seminal contribution is asserted through the author's continuing work on organisations as systems and subsystems of political action, leading to a belief that *'the possibilities and limitations of change in any organisation are influenced by the history of attitudes and relationships between interest groups in and*

outside of the firm, and by the mobilisation of support for a change within the power structure at any point in time' (p.27).

In summary, Pettigrew and Whip (1991:268) articulate the following research attributes as necessary in view of 'changing':

- Processual – an emphasis on action as well as structure;
- Comparative – a range of studies;
- Pluralist – describe and analyse the often competing versions of reality seen by actors in change processes;
- Historical – take into account the historical evolution of ideas and actions for change as well as the constraints within which decision makers operate.

It follows that the selected data collection methods need to facilitate a dynamic view of the implementation of Lean methodology in the NHS. Table 3.3 below illustrates how the research methods align with a processual and contextualist perspective of change in accordance with the attributes outlined in Pettigrew et al (1991) outlined above.

Table 3.3: Summary of data collection techniques aligned to Pettigrew et al (1991)

Research Attribute	Method, description and rationale
Processual (an emphasis on action as well as structure)	**Case Study** The case study method incorporates a series of semi-structured *interviews* with a cross section of staff in the hospital who have experienced Lean (not necessarily as part of the observed 'event') to reveal the reality of Lean implementation in a hospital Trust from the perspective of a range of hospital staff including members of the Executive team, consultant doctors, nurses and healthcare assistants. Where possible the researcher will also seek to observe Lean implementation to enrich the interview data and allow a rich documentation of how Lean is actually being implemented in a hospital environment. **Quantitative analysis** of organisational performance alongside Lean implementation. The aim is to explore whether there is any quantitative support for the impact of Lean implementation in English hospital Trusts.
Pluralist (describe and analyse the often competing versions of reality seen by actors in change processes)	**Semi-structured interviews** (as above), interviews in four case study hospital Trusts with approximately 12 members of staff at different levels of the organisation.
Comparative (a range of studies)	**Document analysis** A document analysis research method is used to analyse the annual reports of all NHS general acute hospitals in England in order to compare and contrast approaches to Lean implementation by English hospitals in light of contextual data and performance data. **Cross Case analysis** To compare confirm and aid comprehension of the phenomena of Lean and its implementation.
Historical (take into account the historical evolution of ideas and actions for change as well as the constraints within which decision makers operate)	**Document Analysis** Document analysis data is collected at two time intervals to evidence the occurrence of 'changing' in relation to Lean implementation in English hospital Trusts. **Case Studies** Semi-structured interviews will seek a narrative disclosure of the Lean journey in each of the four case studies from the multiple perspectives of interviewees.

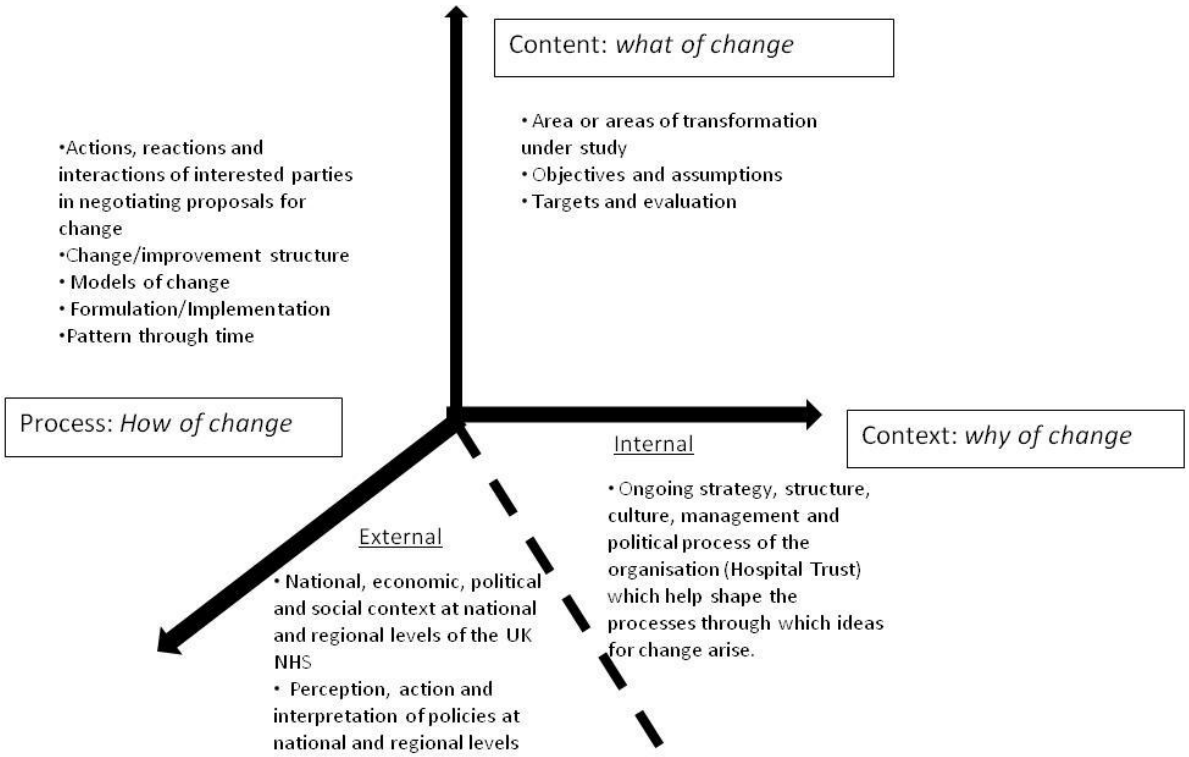
3.8 An analytical framework

Pettigrew and Whipp's (1991) 'context-content-process' model of strategic change is a contextualist approach that was developed to capture strategic change and competition as holistically as possible. The framework dictates that the research must consider the interrelatedness of the three dimensions of context, content and process in order to produce a holistic and dynamic analysis of changing. The appropriateness of the framework to this research is implied by its popularity as a model to analyse change programmes in the context of the NHS (see for example Pettigrew et al, 1992; Iles and Sutherland, 2001; Stetler et al, 2007).

Figure 3.2 illustrates an application of the model in the context of the NHS. Broadly speaking, the 'context' dimension of the framework refers to the 'why' of change. Pettigrew and Whipp (1991) draw a distinction between the external and internal context, giving consideration to external factors such as national economic, political and social factors as well as the perception of action and interpretation of these factors at national and regional levels; internal context reflects strategy, structure, culture and management (Stetler, et al, 2007). The 'content' dimension of change refers to the 'what' of change, in other words the particular area or areas of transformation under study. Pettigrew et al (1992) also note that abstract features of content such as radical vs. small incremental changes, technological changes and changes of roles may also have an impact on the adoptability of change reflecting the idea that organisational response can be shaped by characteristics of the issue being processed. The 'process' dimension refers to the 'how' of change i.e. how is change operationalized in the organisation, for example, in relation to Lean implementation the process dimension relates specifically to the hospital Trust's strategy for implementing Lean, such as via an organisation wide programme for service improvement or via a few isolated projects.

In brief, the context dimension presents a vertical form of analysis whilst the process dimension refers to a horizontal form of analysis (Pettigrew, 1985; Dopson et al, 2008).

Figure 3.2: Adapted from Pettigrew and Whipp (1991) to reflect this research



To summarise part two, the research methods are selected to portray a holistic and dynamic picture of Lean implementation in the NHS in consideration of Pettigrew's view of strategy as 'changing,' denoting a processual and contextualist perspective as outlined above. The analytical framework presented in figure 3.2 guides the data collection; the application and operationalisation of the framework and the individual dimensions are described in detail in part three: *Methods of data collection and analysis.*

Part Three: Methods of Data Collection and Analysis

3.9 Methods

The sequential research design is operationalised in three research phases, each phase corresponding to a research question. Phase 1 corresponds to research question 1: *Can different approaches to Lean implementation be characterised in English hospital Trusts?*

Phase 1:

- Document analysis of hospital annual reports to explore the implementation of Lean in English hospitals.

3.9.1 Document Analysis[11]

Krippendorff (2004) provides a definition of document analysis:

> *'Content analysis* [document analysis] *is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use'* (Krippendorff, 2004:18)

The above definition focuses attention on the method of document analysis. Krippendorff (2004) reminds us that a 'text' has no 'reader-independent' qualities, thus reading any text, no matter how careful and articulate the author, the reader will always incorporate a degree of conjecture and subjective interpretation; *'the meanings of a text are always brought to it by someone'* (p.22). Thereby Krippendorf (2004) is explicit in his contention that document analysis is a qualitative method involving interpretation of the text by the reader. Others (eg, Riffe et al, 2005), adopt document analysis as a quantitative method whereby meaning is attributed to text by counting word frequency alone (Krippendorff, 2004). That said, in order to enhance the reliability of the document analysis method the researcher notes the need to make

[11] The researcher has selected the term 'document analysis' in place of 'content analysis' so that the reader does not confuse the method of 'content analysis' with the 'content' dimension of the 'context, process, content' framework.

explicit the method of making inferences from the text to allow replication (Krippendorff, 2004; Weber, 1990); this is captured in section 3.1.1.

Ultimately, the benefit of taking a document analysis method lies in the ability to sift through large volumes of data and thus analyse a much larger sample than would be otherwise possible using other qualitative methods that typically rely on small samples for analysis (Krippendorff, 2004). Stemler (2001) notes that document analysis is also useful for examining trends and patterns in documents with the additional advantage of providing 'an empirical basis for monitoring shifts in public opinion' (p.2). The main disadvantage of document analysis relates to problems of missing or incomplete data. In the case of this research there is an assumption that the organisation will refer to the use of Lean in their Annual Reports if they are using Lean in some way.

3.9.1.1 Document analysis: revealing the steps

This research analyses the text contained in the Annual Reports of all English general hospital Trusts in England. Identification of English NHS Trusts was via a list of acute hospital Trusts available from the national NHS website: NHS Choices http://www.nhs.uk/ServiceDirectories/Pages/AcuteTrustListing.aspx#TrU. This national list does not exclude specialist NHS Trusts such as those whose services are focused on the provision of cancer treatments, women's and/or children's health, ophthalmology etc. and thus the researcher had to manually identify and remove specialist hospitals from the list. Whilst every effort was taken by the researcher to identify all acute general NHS Trusts in England from this list, it is with regret that the University Hospitals of Leicester is known to be omitted from the dataset. This omission was accidental and due to a data inputting error on behalf of the researcher.

Following identification of acute general hospital Trusts in England, data was collected using a combination of narrative analysis and Key Word in Context (KWIC) techniques to identify and collect data relating to the three dimensions of the analytical framework: context (why of Lean), process (how of Lean) and content (what of Lean). How data is collected under each of these dimensions is explained in detail below via the application of Grbich's (2007) six questions of document analysis; table 3.4 presents a summary of how the researcher collected and attributed data under each dimension.

Table 3.4: Summary of data collected and attributed to each dimension of Pettigrew and Whipp's framework of strategic change

Dimension of Pettigrew and Whipp's framework	Data collected and attributed to dimension
Context – the 'why' of change	Inferred from the management commentary where the nature of the operating context is discussed in varying detail but generally conveys whether the Trust has experienced a difficult year evidenced by financial woes, performance difficulties and/or media concern, or a successful year evidenced by good and improved performance relating to key targets, staff awards, recovery from financial debt etc.
Content – the 'what' of change	Inferred from descriptions of projects identified using a key word in context (KWIC) method to identify examples of Lean implementation. Eg. Reduction of waiting times in Cytology department.
Process – the 'how' of change	Inferred from the description of Lean implementation contained within the annual report. For example, an organisation wide approach to Lean implementation that implies Lean is implemented as a 'system' is inferred by a description of Lean frequently contained within the management. This contrasts sharply with a Trust making reference to one or two isolated projects that apply Lean methods.

Annual reports have been selected as the unit of analysis because every hospital Trust in England must present to Parliament (pursuant to *Schedule 7, paragraph 25(4)* of the National Health Service Act 2006) a report detailing the organisation's activities during the previous 12 months. A pilot sample of the reports found that these annual reports consistently adhere to a similar structure that provides sufficient data under each of the analytical constructs of Pettigrew and Whipp's framework, namely: context, content and process (see figure 3.3, below for structure and content of annual reports by English hospital Trusts). Thus the annual reports facilitate a vehicle for comparison across a complete population sample. Furthermore, the process can be

repeated annually in order to examine the data set for trends and patterns in relation to the phenomena under study (Stemler, 2001).

Analogous to the early work of Krippendorff (1980), Grbich (2007:112) suggests that six questions should be addressed in every document analysis, below each question is addressed in turn to explicitly reveal the process adopted by the research.

1. Do you have sufficient documents to make this form of analysis useful? And which parts of these documents are to be analysed – all or part of the documents? And pertaining to what topics?

Firstly, all hospital Trusts in England present an annual report to Parliament pursuant to *Schedule 7, paragraph 25(4)* of the National Health Service Act 2006, thus the reports are mandatory and written for governance purposes. Secondly, all annual reports must be made available to the general public thus whilst the report must satisfy its mandatory requirements it also has flexibility in terms of style and presentation in order to appeal to the public reader.

> *"For each accounting year an NHS Trust must prepare and send to the Secretary of State an annual report in such form as may be determined by the Secretary of State…including information as to its forward planning, as, and in such form as, he may require."* (National Health Service Act 2006:201)

An initial sample of twenty annual reports reveal them to be vastly similar in structure and content reflecting the following guidance set out for NHS Foundation Trusts by the independent regulator *Monitor* shown in figure 3.3.

Figure 3.3 Guidance for Annual Report structure and content

- A directors' report including a management commentary;
- a remuneration report;
- the disclosures set out in the NHS Foundation Trust Code of Governance*;
- other disclosures in the public interest;
- a statement of Accounting Officer's Responsibilities; and
- a statement on Internal Control; and,

- details of the Trust's quality objectives and performance against those objectives.

(Source: NHS Foundation Trust Financial Reporting Manual (2008/09:74)

A contextualist/processualist approach to data analysis might argue that all sections of the annual reports may be deemed relevant and useful, however, in order to bound the focus of the research to the phenomena of Lean and its implementation, the researcher reads in detail the director's report including management commentary to gather data relating to 'context'.

Following an initial pilot sample of twenty annual reports of English hospitals the research found that the management commentary is typically provided in the report's opening pages with a statement first by the Chairman of the Trust followed by the Chief Executive of the Trust. The length of the narrative varies in length from as little as two pages up to approximately ten pages. The narrative generally provides an overview of the past operating year in terms of the following non exhaustive list of topics that enable an interpretation of the 'context' element of Pettigrew and Whipp's 'context, content, process' framework:

- indications of a successful/disappointing/difficult year through a discussion of highs and lows;
- discussion of any high profile incident relating to the Trust such as poor hygiene scores, a high standardised mortality ratio, medical errors and/or intervention from independent or governmental regulatory bodies;
- changes in the executive management team – new Chairman/Chief Executive and other high profile members of the executive board;
- the Trust's attitude to service improvement eg. a 'turnaround' Trust or one that claims to be at the forefront of innovation and service improvement;
- performance scores awarded by the Care Quality Commission and other acknowledgements/accolades for performance (eg. HSJ awards

present small/medium and large Trust of the year awards; CHKS top 40 NHS Trusts);

- financial status, eg. historical debt and/or operating deficit/surplus;
- demographic data relating to the size of population served, the density of population associated with the local areas served, ethnic diversity, and any other information/characteristics relating to the general health and wealth of the local population.
- location characteristics i.e. whether the Trust is situated in an industrial part of the country, a tourist area, rural area or city centre. Also Trust size in terms of number of staff, number of beds, budget/turnover.

In order to draw the focus of the study to the phenomena of Lean implementation without the impracticality of reading through all sections of the report, a 'key word in context' (KWIC) technique is used. This technique is particularly useful because the Annual Reports vary in length between 30 and 300 pages reporting diverse issues and topics and thus a lot of information is presented that is not relevant to the specific research focus. The objective of using a KWIC tool for data collection is to establish which Trusts are articulating the use of Lean, why they are using it (context), 'what' they are using it for (content) i.e. what tools and techniques are used and at what level (functional, department, patient pathway), and 'how' they are using it i.e. a project, a programme, or just a bit of an experiment or trial. KWIC employed is this way resembles Coffey and Atkinson's (1996) hermeneutic devices, where codes (or key words) become tools to think with. Krippendorff (2004) uses a similar terminology with reference to the use of computational search techniques, choosing the term 'hermeneutic exploration' to emphasise that the nature of categories of analysis do not need to be fixed, rather they can evolve with the readers growing level of understanding as they become more acquainted with the context of the phenomena.

The use of a computer to conduct a KWIC search allows the researcher to cut and paste the text surrounding the key word in order to maintain a transparent process of thematic analysis. The following key words have been arrived at via a combination of prior knowledge developed from the literature (alongside practical experience of Lean

implementation in healthcare) and accompanied by an initial pilot sample of 20 annual reports:

- 'Lean', as evidence of an application and/or awareness of Lean methodology;
- 'productive', as evidence of implementation of the national productive ward programme which is an application of the '5S' technique commonly associated with Lean;
- 'releas', as the base form of the word 'releasing' and 'release' - part of the tag line 'releasing time to care' which is used synonymously with productive ward;
- 'waste', as possible evidence of an application of Lean methodology;
- 'improv' as the base form of the words 'improve', 'improving' and 'improvement' to highlight activities related to service improvement that may or may not be led by Lean methodology;
- 'Rapid' and 'kaizen' to identify the commonly used rapid improvement events as a vehicle for implementing Lean;
- Program as the base form of 'programme' in recognition that some hospital Trust's have taken a programme approach to service improvement that may or may not be underscored by Lean methodology;
- Project to identify the existence of a project or programme that may or may not be using Lean methodology.

The limitation of using a KWIC technique for document analysis lies in the use of the term 'Lean' by the hospital Trust and in the decision to articulate a Lean approach in the annual report. Thereby, it is possible that a hospital Trust is using Lean in some way but this is implicit in the report or simply not mentioned at all. In order to mitigate this occurrence, the key words identified above contain generic words that are often associated with Lean implementation such as 'project' and 'program' which may identify text that discusses improvement work in the Trust and the researcher may infer whether this 'echoes' Lean principles. Where a description of a project echoes Lean a further enquiry can be conducted on the corresponding Trust website to try and confirm the presence of Lean implementation in the Trust. Similarly, a website search using key words in the 'search' function of a Trust's website can also

identify hospital Trusts that are implementing Lean but have not written about it in their reports. The website search typically picks up the use of Lean methodology in Trusts who have not specified it in their annual reports but have discussed it internally documenting implementation in archival documents such as 'minutes of meetings' and staff magazines. For example, there may be documents that specifically consider the implementation of Lean in the Trust following pilot projects; there may be evidence of an invitation to tender for management consultants to help roll out Lean methodology or design a programme for Lean implementation, or there might be an example of a Director recounting feedback from a Lean event at a meeting of the board and this will be included in the Trust's 'minutes' which are available for public download from the hospital Trust's website. The search function on hospital Trust websites was found to be capable of searching latent content archived on the website and identify evidence for Lean implementation. This additional KWIC approach is an important safeguard for detecting evidence of Lean implementation in the Trust when there is either no mention of Lean in the hospital report, or if there is content in the report that may imply the use of Lean methodology eg. a discussion of removing 'waste' from processes and/or process redesign are both strong indicators of Lean implementation but not explicit.

2. What sampling approach will be undertaken?

The sample endeavours to include each individual hospital Trust in England that offers general acute services (including A&E) to the general public. The sample excludes hospitals providing solely specialist services, for example, Birmingham Women's hospital and Birmingham Children's hospital are both excluded from the sample on the basis that the level of complexity may be conceived as greater in an organisation offering a myriad of services including A&E to the general public.

The document analysis approach outlined under question 1 is conducted at two time intervals pertaining to the operating year 2007/08 (T1) and 2009/10 (T2). A gap of one operating year is the maximum gap feasible in this study at this time due to the nature of Lean phenomena being relatively new in healthcare and the nature of doctoral research taking place across a three year period. The gap is necessary however to provide a level of insight into the notion of 'changing' as dictated

fundamental in Pettigrew and Whipp (1991), and in parallel with the dictum of Lean as a 'journey' (Radnor, 2010).

The population of acute general hospitals in 2008 was 152, in 2010, this sample had reduced to 143 following a number of hospital merges. A full list of the hospitals used in this study is presented in Volume II.

3. What level of analysis will be undertaken and what particular actions will be coded for?

The level of analysis is determined by the document, i.e. the annual report which relates to the operating activities of the Trust as a whole. Thus an organisational level of analysis is taken using the document analysis method. The actions to be coded for are guided by the analytical constructs of Pettigrew and Whipp's context-process-content model. As described under Grbich's (2007) question 1 above, the 'context' dimension is mostly satisfied through interpretive analysis of the management commentary or narrative provided in the opening of the annual report coupled with more objective demographic data identified from the annual report and the Trust website. Other aspects of context that are coded for include external data such as the Strategic Health Authority (SHA) that the Trust operates under and any physical attributes that are mentioned in the Annual report or on the Trust's website, eg. a popular tourist location or situated near major airports and motorways or situated in a heavy industrial area for example. Such attributes can have an impact on the type and level of demand experienced by the hospital Trust. Also under context are internal issues relating to more objective data such as Foundation Trust authorisation, performance scores and movement of Chief Executives.

Data relating to the Process and Content dimensions are derived using the KWIC method using key words as codes described and identified under question 1.

4. How will the protocol and/or codes be generated? Will you seek these from the database via preliminary data and thematic analysis or will you impose a pre decided (a priori) coding frame derived from the literature and your own experiences in this field? And if the latter, what inclusion and exclusion criteria will you use to develop pre-decided codes?

The analytical framework guides the data collection under three themes: context, process and content. The key words are the codes in the data and these are derived from a combination of the literature, preliminary analysis of a sample of 20 annual reports and my own experience observing improvement workshops in hospitals. The data collected under the three themes is 'cut and paste' from the annual report document into the tabular proforma for thematic coding, interpretive analysis and categorisation. The copied section is not limited in uniform fashion to 'n' number of lines either side of the key word, rather all of the surrounding text is copied as deemed relevant to the dimensions of the analytical framework and the phenomena of Lean. The coding frame is thus determined by a combination of a-priori knowledge and experience as well as emergent from preliminary analysis.

5. *What relationships between concepts, codes and their contexts will be taken into account? And how will this all be managed? Will you look at context? Or stay with a broad numerical overview?*

The analytical framework dictates that the interrelationship of context, process and content should be considered in any study of strategic change (Pettigrew et al, 1992). In evaluating Lean implementation the research is interested in the interplay between the approach to Lean implementation (i.e. the content and process of Lean implementation) and the context of the organisation. The research also notes the concept of 'changing' as particularly relevant to the implementation of Lean given that Lean is often referred to as a journey, i.e. an organisation does not become 'Lean' overnight but over many years (Fillingham, 2007). In view of the need to conduct temporal research to show the potential 'changing' nature of Lean implementation in hospitals, the document analysis method is applied to two sets of data, one relating to annual reports for the operating year 2007/08 (hereafter referred to as T1) and one relating to annual reports for the operating year 2009/10 (hereafter referred to as T2).

Table 3.5a, 3.5b and 3.5c below provides an example of how the data collection is managed under the three themes, illustrating excerpts of data collected, the interpretation of 'category' and the rationale behind the interpretation. The interplay of all three dimensions reveals itself in the tables. Tables for all 143 hospitals operating in both T2 and T1 are viewable in Volume II of this thesis.

Table 3.5a: An example of data collected under the 'context' dimension of strategic change for *Northern Lincolnshire and Goole Hospitals NHS Foundation Trust*

Construct	Data extracted			Categorical Interpretation	Rationale
Context (external)					
Strategic Health Authority (SHA)	Yorkshire & the Humber			**Y&H**	The strategic direction of the SHA may influence the uptake of Lean in the region.
Context (Internal)					
Physical Attributes, Structure					
Area Served	Northern & Yorkshire Region			**Rural and Coastal**	Size and location of Trust. The annual reports of a number of hospitals suggest that demographics such as area and population characteristics have a direct impact upon demand for its services. For example, in coastal tourist areas the population swells significantly during the summer months.
Population/Location Characteristics	Rural and coastal, small market towns				
Staff	6700			**Large Trust**	
Catchment Population	385,000				
Trust Performance					
Foundation Trust Authorisation	T1 1st May 2007		T2	**FT1**	In the UK, Hospital Trusts undergo a rigorous assessment process to achieve FT; FT status affords financial freedom to invest in services as they choose.
	2006/07	2007/08	2008/09	**Good performance, no issues**	The Care Quality Commission's annual HealthCheck awards scores to all NHS Trusts in England under two categories each year from 2005/06 through to 2008/09. (The scores were abolished under the new government in May 2009.)
CQC Quality of Service	Good	Good	Excellent		
CQC Use of Resources	Fair	Excellent	Fair		
Leadership					
Chief Executive (name and background)	T1	T2		**New CE, stable history**	How long has the Chief Executive been in post? Has the Trust experienced frequent changes in the Executive management?
	Andrew North, joined North East Lincolnshire NHS Trust in April 1997 as Chief Executive	Karen Jackson			
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'When reviewing our performance 'in the round' we believe 2007/8 was a highly successful year for the Trust			**Successful**	How does the Chairman and Chief Executive summarise the year? What are the highs and lows? What identifiable issues is the Trust facing? Has it been a successful year? Has it been a year of change, tough decisions, turnaround, or crisis?
Notes on AR T2 (08-09; 09-10)	'When reviewing our performance 'in the round we believe 2009/10 was a highly successful year for the Trust;' (AR0910:6). 'Throughout the year the Trust has sought to build on the strong foundations established in earlier years of both a sound financial footing and high quality services, and to give a real emphasis to simultaneously improving quality whilst delivering value for money.			**Successful, stable**	

Table 3.5b An example of data collected under the 'process' dimension of strategic change for *Northern Lincolnshire and Goole Hospitals NHS Foundation Trust*

Construct	Data extracted	Categorical Interpretation	Rationale
Process			
Service Improvement Approach T1	T1: The Trust "Lean" project commenced in December 2007 with personnel from the US based Lean Consultancy (Argent Global)… This industry proven approach has already resulted in significant improvements both in terms of service efficiency and cost effectiveness in services such as Histology and Blood Sciences. The intention is now to develop this work further into the Trust with work already starting and making progress in Theatres, Surgery and Patient Administration and soon to extend to areas such as Radiology and Medical Staffing. Argent help our own staff look critically at existing working patterns and apply "Lean" methodology to reduce areas of waste and non-value adding activity. Key to success will be training our staff in the Lean techniques so that they apply the methods themselves and own the more efficient working practices. A dedicated training facility has already been developed within DPOW Pathology to allow Trust staff to both train and access clinical areas to achieve immediate improvements.	**T1: Programme**	Evidence of Lean in the Trust identified using the KWIC method. Many projects are referred to in T1 from the perspective of the Trust's 'Lean project', suggesting that this is a coordinated implementation of Lean;
Service Improvement Approach T2	T2: 'Path Links' has undertaken a major overhaul of its quality and governance arrangements following the appointment of a Lean & 6-Sigma Specialist. Targeting Lean implementation across the whole of the organisation, the delivery of enhanced levels of service quality and performance is the overriding focus of the Division. Management arrangements have similarly been overhauled with the introduction 'A3' thinking and performance management.	**Systemic**	In T2, the 'project' approach to Lean implementation is less prominent and evidence suggests that a long term focus of Lean implementation across the whole organisation

Table 3.5c: An example of data collected under the 'content' dimension of strategic change for *Northern Lincolnshire and Goole Hospitals NHS Foundation Trust*

Construct	Data extracted	Categorical Interpretation	Rationale
Content			
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Lean assessments in a number of areas both within Pathology and into the wider hospital community (Theatres, Surgery and Patient Administration). Path Links have already benefited from a number of successful projects in Histology, Blood Sciences and Microbiology and these same principles will now be applied elsewhere within the Trust using the newly created "Lean Academy" within Pathology in Grimsby as the training area. The Grimsby Blood Sciences facility has been designed around Lean "Work Cell" principles and utilizes 2 mirrored and fully integrated Haematology and Chemistry work cells with highly automated robotic specimen handling front ends. Productive Wards.		Explicit reference to the application of Lean tools and methods in the Annual Report is presented here. This data helps to guide and support determination of the approach to Lean. In this example, it is clear that a number of projects have taken place across a number of functions and a Lean Academy has been set up to train staff thus denoting a planned approach to Lean implementation that extends beyond a few projects and suggest a longer term commitment to Lean across the Trust.
Areas identified as under transformation	T2: The centralised Histopathology service in Lincoln has radically transformed its operations through the implementation of LEAN thinking and working practices. This has lead to greatly improved productivity levels and quality of service as evidenced by: • 45% Reduction in Turnaround Time (TaT) • 60% Increase in Productivity • 53% Increase in Efficiency • 98% Reduction in Errors Similar improvements have been made in Cytology whereby the service far exceeds the requirement to meet the national standard of a maximum 2 week TaT for cervical cancer screening. In Lincolnshire, all such tests are reported in less than 1 week.		Explicit reference to the application of Lean projects in the Annual Report is presented here where available. Evidence of service improvement that is attributed to Lean is further evidence that the Trust is committed to Lean implementation and are communicating successes to the wider environment through the annual report.

How reliable is the approach or protocol that you have decided on? Can a high level of inter-rater reliability be sustained? Can validity be achieved through cross referencing to other documents or through triangulation and the inclusion of qualitative data?

When using a document analysis approach it is up to the investigator to judge what method is appropriate, however to make valid inferences the classification procedure must be reliable in the sense of being consistent (Weber, 1990) and thereby replicable. The transparency of the approach is considered critical (Mayring, 2000; Grbich, 2007). A high level of transparency is evidenced in terms of the explicit process used to collect the data, the key words used to identify Lean implementation and the explicit rationale for coding the data described in the preceding questions. The research protocol has also been made explicit with an example presented in Tables 3.5a, b and c above. Furthermore, the protocol has also been repeated consistently around 300 hundred times across two points in time (152 reports in 2008 and 143 in 2010), and data for all hospitals are viewable in the same format as tables 3.5a, b and c in Volume II.

Given the explicitness, transparency and consistency of the data collection the researcher anticipates that a high level of inter-rater reliability would be sustained should the study be replicated. The nature of doctoral research determines that the research is individually lead so no other person has attempted to code the documents and thus a statistically based test of inter-rater reliability using for example Cohen's co-efficient Kappa as recommended by some authors (see Krippendorff, 2004; Grbich, 2007) has not been applied.

Whilst the research embraces the constructivist view that multiple realities exist, this document analysis approach is intended to be a 'snapshot' of Lean implementation based on the articulation of Lean methodology in the annual report (and on hospital Trust websites). In most cases, only small chunks of text in the annual reports make reference to service improvement activity and this text may or may not articulate or infer the use of Lean methodology. Thus the text that is analysed tends to be relatively discrete thus supporting the reliability of the process. Every effort has been taken however to secure reliability through transparency of procedures and coding. This does not exclude the possibility of another coder to code differently, but it does

provide a rationale for the researcher's coding that can be contested or affirmed by the reader.

3.9.1.2 Cross referencing to other documents and the inclusion of qualitative data

In order to collate sufficient data to present an holistic view of the context, content and process of Lean implementation in English hospitals, and to include information of direct relevance to the research questions, cross referencing to other documents and the inclusion of qualitative data is crucial to triangulate the data and more importantly to provide further insight that will help build theory (Eisendhart, 1989).

The researcher has already described in detail the use of the KWIC method to highlight Lean and service improvement activity within the Trust (under question 1 (Grbich, 2007)). In addition the key word 'Lean' is also typed into the search function of the individual Trust's website in order to identify any archival documents that reference the use of Lean in the Trust either in the past, present or future. For example, if a hospital is contemplating the implementation of Lean methodology it may be that a tender for Lean consultancy is considered and the details of which are recorded in the minutes of board meetings. Similarly, such 'minutes' may also make reference to staff proposals for Lean projects in the Trust or the reporting of progress with an existing Lean project. Where such data is identified through the use of the Trust website search function, the document, its online location and the date accessed is clearly referenced.

3.9.1.3 External media, SHA's and other sources of information

The external context of English hospitals plays a role in shaping the strategic direction of individual Trusts. For example, Strategic Health Authorities (SHA's) will set a strategy for the Trusts located within its operating region that may dictate the use of Lean methodology. Whilst the research acknowledges the existence of such influence data collection does not extend to this level. The reason for this decision is to avoid a flood of additional and complicated data that may distract the focus of the research from the level of the hospital Trust. However, the researcher acknowledges the potential influence of the external context and thus the SHA in which the Trust is located forms part of the data collected for each individual hospital Trust.

Information however relating to externally published performance data relates specifically to research question 2: *Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?* This will be answered by considering the performance ratings awarded to NHS Trusts annually by the Care Quality Commission (CQC). These ratings were chosen because of their perceived political and operational salience, as well as a fit with the assumption of service improvement where an organisation's rating has been upgraded. This perceived salience is inferred owing to the role of the CQC as a national regulator appointed by the Department of Health to monitor organisational performance of all healthcare organisations annually in England. Aligned to this, the annual reports of NHS Trusts frequently make reference to their current rating in their annual reports expressing the rating as a benchmark for the organisation's performance and as justification for either improving performance or keeping up the good work. Similarly the use of CQC data by the NHS Choices website implies that such data provides an important indication of organisational performance to the general public. The NHS Choices website was set up with the purpose of providing an information portal to allow the general public to compare service providers and make informed choices about who they select to provide their care. CQC performance data is included under the 'context' dimension of the analytical framework and will be discussed in section 3.9.2.

3.9.2 Phase 2: Quantitative analysis of the influence of Lean upon organisational performance of English hospital Trusts

Phase 2 seeks to address research question 2: *Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?*

Phase 2 builds on phase 1, using the emergent data relating to how Lean is being implemented in English hospital Trusts alongside performance data awarded annually by the Care Quality Commission (CQC) to evaluate whether there is any quantitative evidence of a relationship between Lean and organisation performance. The use of CQC performance data provides a uniform method of evaluating performance data

measured via a set of general standards across the NHS (Healthcare Commission, 2008). The role of the CQC and the performance scores are described in section 3.9.2.1.

3.9.2.1 Care Quality Commission performance data

The Care Quality Commission (CQC) is an independent regulator of care provided by the NHS and independent care providers. The role of the CQC in England is to assess and report on the performance of healthcare organisations to ensure that they are providing a high standard of care and promote improvement (Healthcare Commission, 2008). During the period 2005/06 to 2008/09 all hospitals in England underwent an 'annual health check' where hospital performance is rated under two main categories:

1. **Quality of Service**. The 'quality of service' performance category consists of two parts:

   i. An assessment of compliance with core standards set by the Department of Health. The core standards relate to '*Standards for Better Health'* published by the Department of Health (2004) and set out the basic standards of healthcare that patients can expect to receive, *'they cover areas of real importance to patients such as the safety and quality of care and the accessibility of services'* (Healthcare Commission, 2008).

   ii. Assessment via a set of indicators which are based on the 'vital signs' that are published by the Department of Health to provide a national framework of priority issues within which local services are to be planned and provided

2. **Use of Resources** (quality of financial management) – The 'use of resources' performance score assesses: *are Trusts managing their finances effectively?* For

'use of resources' now called 'financial management' the assessment for non-Foundation Trusts focuses on the following themes:[12]

- Financial reporting
- Financial management
- Financial standing
- Internal control
- Value for money (economy, efficiency and effectiveness)

Foundation Trusts (FTs) are monitored differently for financial management where the independent regulator for FTs is the independent regulator, Monitor, which collects data from FTs annually, quarterly and/or monthly to determine a risk rating to identify the level of monitoring required for each foundation Trust. The risk rating has three components: finance, governance and mandatory services. The reason for this difference is because FTs are set up under a different financial regime than other NHS organisations.

Ultimately, during the period 2005 to 2009, each hospital Trust in England received a performance score under the two categories outlined above. The performance score is awarded at four levels: 'excellent', 'good', 'fair' and 'weak'. For non-Foundation Trusts, failure to break even for the year will result in a 'weak score'; Foundation Trusts are not required to break event *'the risk rating is forward-looking and is intended to reflect the likelihood of an actual or potential financial breach of the foundation trust's terms of authorisation'* (source: Monitor website[13]).

3.9.2.2 Quantitative analysis of Lean and Performance

In order to evaluate quantitatively whether Lean has an influence upon organisational performance a non-parametric test is necessary that is capable of dealing with ordinal values. The CQC performance rating method employs four clearly ranked categories that essentially rank performance from the very good to the very bad under two

[12] http://archive.cqc.org.uk/guidanceforprofessionals/nhstrusts/annualassessments/annualhealthcheck2005/06-2008/09/qualityoffinancialmanagement.cfm accessed 26/2/12

[13] http://www.monitor-nhsft.gov.uk/home/about-monitor/how-we-do-it/how-monitor-regulates-nhs-foundation-trusts/assessing-financial-risk accessed 26/2/12

categories. In order to compare the performance scores with the approach to Lean we need to be able to rank emergent categories of approaches to Lean taken by hospital Trusts from 'a little' e.g. a tentative approach to 'a lot' e.g. a systemic whole organisation approach. Thus a non-parametric test that is capable of testing a set of research data that is made of two independent ordinal variables is necessary; a non-parametric test makes no assumptions about distributions.

The Kruskal-Wallis One-Way analysis of Variance by Ranks test (K-W) is an extension of the Mann-Whitney *U* test to a design involving two or more independent variables; when two independent variables are used the K-W test will yield a result that is equivalent to that obtained with the Mann Whitney *U* Test (Sheskin,2004).

Sheskin (2004) provides an overview of the four key assumptions underlying the K-W test, the first two being that the samples are randomly selected from the population it represents and are independent of one another. The third assumption is that the dependent variable (which is subsequently ranked) is a continuous random variable. The author contests this third assumption stating: *'this assumption, which is common to many nonparmetric tests, is often not adhered to, in that such tests are often employed with a dependant variable which represents a discrete random variable'* (p.757).

The fourth assumption concerns the homogeneity of underlying distributions from which the samples are derived. Sheskin (2004) contends that this assumption is not generally acknowledged and furthermore the author points out the existence of empirical research that suggests that the sampling statistic is not as affected by a lack of homogeneity as other nonparametric tests thereby justifying its use.

3.9.2.3 Hypothesis testing

The K-W test evaluates the following hypothesis:

In a set of 2 (or more) independent samples, do at least two of the samples represent populations with different median values?

A null hypothesis would state that within the populations there is no significant difference in the median values; which means there is no evidence that organisational

performance is influenced by Lean. Translated, this means that of each of the categories (populations), the medians are not significantly different thereby implying 'there is no quantitative evidence that Lean influences performance'. If the null hypothesis can be rejected, i.e. there is a difference in the median of at least two of the samples then an alternative hypothesis can be considered (where alpha = 5%). An alternative hypothesis would be 'there is some quantitative evidence that organisation performance is influenced by Lean implementation'.

3.9.2.4 Conducting the K-W test

Quantitative data analysis software SPSS is used to perform the K-W test where the hypotheses listed below are tested using the emergent categories of approaches to Lean implementation from phase 1 of the research. The output of each of these tests is calculated using SPSS software to produce a *'p'* value and an automated commendation to 'reject' or 'retain' the null hypothesis. The *'p'* value measures the consistency of phenomena by calculating the probability of observing the results from a sample of data or a sample with results more extreme, assuming the null hypothesis is true**.** A *p* value smaller than 0.05 suggests an inconsistency of observations with the null hypothesis, thus the null hypothesis can be rejected.

The research tests three hypotheses to consider whether there is any quantitative evidence to support the impact of Lean upon performance at an organisational level. Hypotheses are broken down into four parts: parts a and b considers the 'use of resources' aspect of performance scores in relation to the approach to Lean and vice versa; parts c and d considers the 'quality of service' aspect of performance scores in relation to the approach to Lean and vice versa. Whilst H1 considers scores and approaches related to T1, H2 considers scores and approaches related to T1. Conducting the tests in this way enables the research to consider that the approach to Lean might influence performance whilst equally, performance may influence the approach to Lean.

The third set of hypotheses incorporates the rationale of H1 and H2 (that performance may influence the approach to Lean implementation just as the approach to Lean implementation might influence performance) and allows for the possibility of a delay in impact where poor performance during one operating period (T1) might be related

to a Trust's approach to in T2; similarly the impact of a Trust's approach to Lean in T1 might be related to the Trust's performance score in T2.

Hypotheses to be tested:

H1: Is there a relationship between a Trust's performance score T1 and the approach to Lean implementation T1

H_o1a: The approach to Lean implementation T1 has no influence upon the score for 'use of resources' T1

H_o1b: The score for 'use of resources' T1 has no influence upon the approach to Lean implementation T1

H_o1c: The approach to Lean implementation (T1) has no influence on the performance score for 'Quality of service' (T1)

H_o1d: The score for 'Quality of Services' T1 has no influence on the approach to Lean implementation T1.

H2: Is there a relationship between a Trust's performance score T2 and the approach to Lean implementation T2

H_o2a: The approach to Lean implementation T2 has no influence on the performance score for 'use of resources' T2.

H_o2b: The score for 'use of resources' T2 has no influence upon the approach to Lean implementation T2

H_o2c: The approach to Lean implementation T2 has no influence upon the score for 'Quality of Service' T2

H_o2d: The score for 'Quality of Service' T2 has no influence upon the approach to Lean implementation T2

H3: Is there a relationship between a Trust's performance score T1 and the approach to Lean implementation T2

H_o3a: The approach to Lean implementation T1 has no influence upon the score for 'use of resources' T2

H_o3b: The score for 'use of resources' T1 has no influence upon the approach to Lean implementation T2

H_o3c: The approach to Lean implementation T1 has no influence upon the score for 'quality of service' T2

H_o4d: The score for 'Quality of service' T1 has no influence upon the approach to Lean implementation T2

3.9.3 Phase 3: Case study analysis

Phase 3 of the research employs case studies to explore and build theory regarding the implementation of Lean in English hospitals. Phase 3 seeks to address research question 3: *Is there a relationship between the context of the hospital and (the approach to) Lean implementation?* Phase 3 uses case study methodology to develop a more detailed and nuanced understanding of the implementation of Lean in English hospital Trust's to build theory relating to the implementation of Lean by English hospitals.

> *"You would use the case study method because you deliberately want to cover contextual conditions – believing that they might be highly pertinent to your phenomenon of study"* (Yin, 2003:13)

Yin (2003) describes case research as an 'all-encompassing' method, a 'comprehensive research strategy', i.e. one that should not be limited in definition to a data collection tactic. This conceptual description of an all encompassing method presents an appropriate fit to the holistic, contextual and processualist approach to research advocated by the analytical framework that guides the research design as a whole.

Key strengths of the case study approach are outlined in Voss (2002), citing Meredith's (1998) replication of 'three outstanding strengths' put forward by Bebensat et al (1987):

1. The phenomenon can be studied in its natural setting and meaningful, relevant theory can be generated from understanding gained through observing actual practice;
2. The case method allows the questions of why, what and how to be answered with relatively full understanding of the nature and complexity of the phenomenon;
3. The case study lends itself to early, exploratory investigations where the variables are still unknown and the phenomenon not at all understood.

With respect to the third strength, Yin (1993) exercises caution in his description of exploratory case studies in light of the lack of theory to delimit the flow of data. While useful, Yin (1993) reminds us that the 'real study' still needs to follow afterwards.

3.9.3.1 The role of the case study

Case research is employed here as an instrument of theory building to examine more deeply the phenomena in the context of its natural setting and validate the data with regards to the emergence of discernible approaches to Lean implementation by English hospital Trusts, i.e. to validate the theories developed in the previous research phases (Voss, 2009).

The role of the case study is descriptive, aiming to describe the approach taken to Lean implementation by the hospital Trust rather than attempting to say one way is better than another (Yin, 1993). The case study is intended to provide additional meaningful insight into the implementation of Lean within the hospital Trust with regards to the context, process and content of Lean implementation. This role is necessary because it affords the research an insight into the reality of Lean implementation from multiple perspectives, a key weakness of the document analysis method employed in phase 1 of the research and the quantitative analysis in phase 2. The case studies also serve to compliment the document analysis conducted in phase 1, seeking to validate (or otherwise) the categorical labelling of the approach to Lean implementation taken by the case study.

3.9.3.2 Case Selection and Sampling

There is much debate about the appropriate number of case studies. Eisenhardt's (1989) method of theory building advocates the use of between four and ten cases, however, Dyer and Wilkins (1991) argue in a rejoinder to Eisenhardt, that some of the more important studies that have advanced the knowledge of organizations involve just one case. Thus, they argue: *"to assume that a single case cannot be a useful unit of analysis for theory building ignores important exceptions"* (p.614). Voss (2009)

asserts a line of reasoning: *the fewer the case studies, the greater the opportunity for depth of observation* (p.170).

Given the role of the case study in this research, the number of cases thought to provide a balance between the depth of study and the external validity of the approach coupled with the researcher's available time frame is four. The four cases are selected on the basis that each represents a discernible approach to Lean implementation as deduced from the document analysis data to facilitate a description of how one approach differs from another, adding a depth of analysis that is not achievable via document analysis or quantitative analysis. The case study approach used in this way strengthens the defensibility of knowledge claims of the document analysis and quantitative analysis (encompassing document analysis data).

3.9.3.3 Conducting the research

Once selected the Chief Executives of the case study Trusts were identified and initial contact was made via the researcher's doctoral Supervisor. Contact was made initially by email and followed up by a telephone call by the researcher to arrange access. Once access was granted, a preliminary meeting was set up to discuss the nature of the research, the format of the interviews and the research requirements. Each case study was asked to arrange between 6 and 12 interviews with members of staff at various levels in the organisation (to include at least one executive member), to discuss the perceptions and experiences of Lean implementation in the Trust. An enquiry was also made into the possibility of the researcher observing Lean implementation via a rapid improvement event in order to further explore the process of Lean implementation for comparison. The number of interviews conducted for each case study varies slightly depending on the individual circumstances of the trust.

A semi-structured interview protocol was designed using open ended questions to guide the data collection in line with the three dimensions of the analytical framework. The protocol can be viewed in Appendix 1. The researcher encouraged the respondents to talk freely about their experiences thus questions were not limited to those contained in the protocol, rather the protocol was designed to ensure the main lines of enquiry were captured at the same time as enabling the researcher to gain insight into the phenomena of Lean from the perspective of the person of the

individual respondent. All interviews were recorded on a digital recorder, which allowed easy storage and playback of the interviews.

With regards to case studies where observation of a Lean implementation event was permissible, a journal of observations and reflections were kept.

3.9.3.4 Data analysis

Interviews are transcribed verbatim by the researcher and coded thematically using Nvivo 8 Software. The rationale for not employing a professional transcriber was to aid the researcher in interpreting the data by developing intimacy with the transcript. Following transcription into separate word files, these files are imported into Nvivo software as 'cases', with interviews relating to each case study stored as a 'set'. Nvivo software is hereafter used to code the scripts where a-priori constructs of context, process and content were used alongside emergent codes that allowed the researcher to 'code-up' from the data under the a-priori constructs. The use of this software enabled the researcher to compare and contrast the case studies to reveal similarities and differences of context, process and content. Figure 3.3 displays a screenshot of the data analysis in Nvivo illustrating the a-priori and emergent coding employed by the researcher. These emergent codes are then summarised in the case study reports as part of the analysis to describe the phenomenon of Lean implementation situated within the context of English hospitals. In terms of validity, all case studies received and approved an anonymized report of the case study findings.

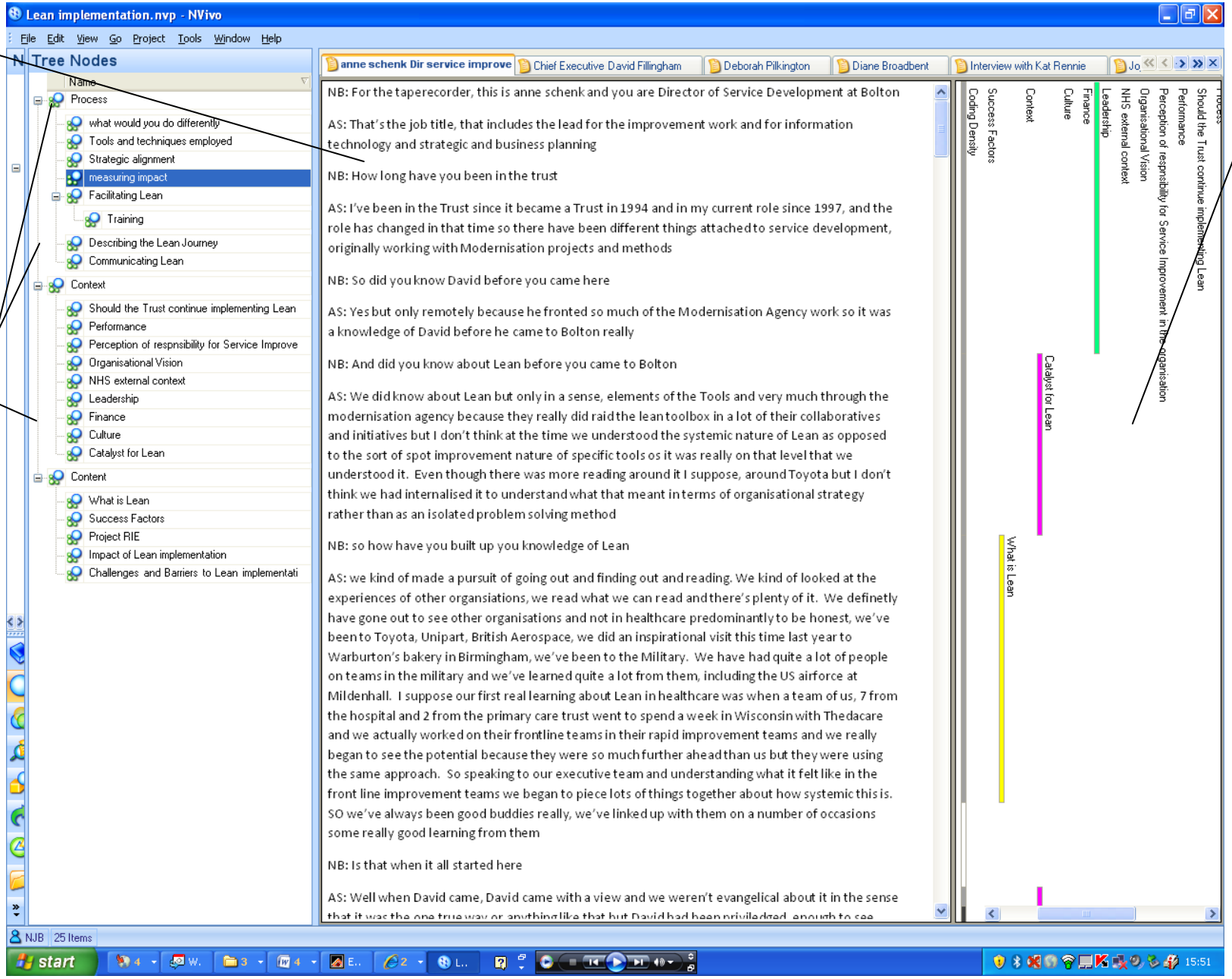
3.9.3.5 Researcher Bias

Voss et al (2002) note the need to recognise the strong bias associated with researchers who bring a strong interest into a field. The research design makes use of multiple data collection methods, including quantitative methods of analysis in order to counteract any unintentional bias displayed by the researcher. Complete transparency of inferences and analysis will also help to substantiate the findings as reliable (Miles and Huberman, 1994) and thereby minimising any unintentional bias.

Figure 3.4 Screenshot of data analysis using Nvivo software

Transcript is typed up verbatim in Word and then imported as a 'source' into Nvivo software

Data is then coded under dimensions of Context, Content and Process, referred to as 'Tree Nodes'.



Coding of data is visible and can be analysed by individual code incorporating all interview data and all cases as selected by the researcher

3.10 Summary of Chapter 3

Chapter 3 outlines the researcher's research paradigm, research strategy and design. A mixed method approach is identified and clearly defined as incorporating both qualitative and quantitative methods with the view that the use of both approaches in tandem produces a study of greater strength than the use of quantitative or qualitative methods alone (Creswell and Plano Clark, 2007); thereby overcoming the biases and limitations of any single method (Creswell, 2009).

The research strategy is guided by Pettigrew and Whipp's (1991) framework of strategic change which dictates that the research must consider the interrelatedness of the three dimensions of context, content and process in order to produce a holistic and dynamic analysis of changing. The research design represents a sequential approach to mixed methods to build a detailed picture of how Lean is implemented in English hospitals from a constructivist paradigm. The sequence begins with document analysis (also known as content analysis) to explore the existence of divergent approaches to Lean implementation (in response to research question 1: *Can different approaches to Lean implementation be characterised in English hospitals?*), followed by cross referencing this data with published performance data to address research question 2 *(Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?).* Finally four case studies are conducted to validate the findings relating to research questions 1 and 2 and to provide a greater depth of analysis to provider a richer and more detailed consideration of research questions 1 and 2. Mixing methods in this way provides a depth of observation that facilitates a set of defensible knowledge claims in relation to all three research questions.

In summary, a mixed methods approach provides a balance between an abstract level of analysis (document analysis and quantitative testing) with the depth of observation afforded by the case studies to develop defensible knowledge claims (Weber, 2004). Reliability is secured through the explicitness of the data collection methods and the transparency of coding in order to raise awareness of the subjectivity of the coding at the same time as defending it (Weber, 2004). Volume II of this thesis lists all data collected via document analysis accompanied by the allocated codes and coding rationale employed by the researcher

for all acute general hospital Trusts in England that were operating in both T2 and T1. Finally, a semi-structured protocol for interviews can be found in Appendix 1.

Chapter 4: Document Analysis

4.0 Chapter summary

This chapter presents data analysis from annual reports of English hospital Trusts using document analysis methods described in Chapter 3. The document analysis data represents a snapshot of Lean implementation in English hospitals at two points in time, relating to the operating year 2007/08 (T1) and 2009/10 (T2). During 2007/08, 152 acute general hospital Trusts in England were identified and during 2009/10 this number reduced to 143 following a number of mergers between T1 and T2. Document analysis data for Trusts that were operating in both T1 and T2 is contained in a separate volume (Volume II) with all Trusts assigned an individual case number. Data relating to the context, process and content of Lean implementation for each Trust is recorded in tables as described in section 3.9.1.1. Trusts are referenced in this chapter (and proceeding chapters), according to their case number so that the reader may be able to refer directly to the data, maintaining a high level of transparency between the data, the allocation of codes and the inferences of the researcher. The reader is also able to peruse the data collected for all Trusts in England that were operating during T1 and T2.

The findings identify divergent approaches to Lean implementation, i.e. the method of implementing Lean varies between hospital Trusts. This chapter uses the document analysis data to illustrate how divergent approaches are presented differently in the annual reports leading to the emergence of a typology of approaches to Lean implementation. Development of a typology of Lean implementation enables the research to trace the implementation of Lean across the period 2007-2010 to look for patterns and trends of Lean implementation in English hospitals over time.

4.1 Lean implementation in English hospitals

During the operating year 2007/08 (T1), a count of 80 acute general hospital Trusts (53%) in a study population of 152 English hospitals were identified as citing the implementation of Lean in their annual reports and/or on their corresponding websites. During the operating year 2009/10 (T2), the study population size is reduced to 143 hospital Trusts (due to a

number of hospital mergers), and the number of hospitals citing an implementation of Lean in their annual reports and/or on their corresponding websites rose to 111 Trusts or 78% of the population sample.

The depiction of Lean implementation in the annual reports was found to vary considerably - from Trusts describing one or two projects to those announcing improvement programmes based on Lean principles. The spectrum of approaches to Lean implementation are found to range from 'tentative', where a Trust is contemplating the use of Lean, to a whole organisation approach ('systemic'), where Lean becomes 'the way we do things around here'.

The following section describes with examples the range of approaches identified.

4.1.1 Identification of Divergent approaches

4.1.1.1 Tentative Lean

A number of annual reports, particularly in T1, confer a very early and tentative approach to Lean. These trusts cite Lean in their annual reports but do not appear to have adopted the methodology at this point. For example, Northumbria Healthcare NHS Foundation Trust (case 28, Volume II), highlights a 1 day Lean Thinking in healthcare event led by Dan Jones (one of the authors of the book *The machine that changed the world).* Similarly, Trafford Healthcare NHS Trust cites attendance at a Lean conference. Thus these Trusts indicated a clear awareness of Lean as a methodology that may offer benefits to the organisation and were actively seeking to learn more about Lean from others. Some annual reports referred to a trial of Lean for example, Pennine Acute Hospitals NHS Trust (case 39, Volume II) cited the successful application of the cytology department to become one of ten national pilot sites to use the adoption of 'Lean Management' practices. The inference made by the researcher is that this was the first and only 'project' involving Lean methodology at the Pennine Trust given that Lean was not cited in any other context and that the project appeared to be a standalone project. Further examples of a *tentative* approach to Lean were identified not necessarily from the annual reports but from the archived documents identified through searching keywords on the Trust websites. For example, a search of 'Lean' on the website[14]

[14] Website search took place in November 2008.

of Royal Liverpool and Broadgreen University Hospitals NHS Trust (case 41, Volume II) retrieved a document dated 2008 that referred to the tendering of management consultants to help the organisation implement Lean.

Each of the above descriptions offer slight variations of a tentative approach, from illustrating an awareness of Lean to the implementation of a small project or tendering for external management consultants; however all of the above examples reflected a very early stage of (potential) Lean implementation. Such Trusts were thus classified *Tentative.*

4.1.1.2 Productive Ward only

Productive Ward (PW) is an initiative that helps nurses to improve efficiency in their working environment. The PW is delivered as a structured set of training modules that began with a few pilot wards in selected Trusts during 2007/2008 and has since been rolled out nationally. The NHS Institute for Innovation and Improvement developed PW to improve efficiency and effectiveness through the removal of waste and an application of 5S, a common 'housekeeping tool' designed to bring order and stability to the workplace.

Data collected during T1 and T2 identified a number of Trusts that made little or no reference to Lean implementation other than to state an adoption of PW on one or more of their wards. For example:

> *'Kingston Hospital's Worcester Ward has successfully implemented The Productive Ward, an innovation which, when implemented, releases time for Midwives and other staff to directly care for women and which has delivered positive results for patients and the hospital'* (Source: Kingston Hospital NHS Trust, Annual Report 09/10, p.18)

In common with Lean methodology PW focuses improvement around the elimination of waste involving staff on the front line. However, given the very structured nature of PW and its restriction to specific areas i.e. the wards, it is felt that a PW *only* approach is distinct from other approaches that apply more broadly across the organisation.

4.1.1.3 Few Projects

A number of annual reports highlighted Lean projects in the Trust during the operating period T1 and/or T2. For example, St Helens and Knowsley Hospitals NHS Trust (case 45, Volume II) cites national recognition for redesign within the (Pathology) laboratory using Lean methodology in their annual report 2007/08 (p.11). The annual report for Wrightington, Wigan and Leigh NHS Foundation Trust (case 53, Volume II) stated its intention of: *'embarking on leveraging LEAN [sic] approach to facilitate future efficiency savings ...* [the objective is] *to complete four Lean value stream improvement projects' (*Wrightington, Wigan and Leigh NHS Foundation Trust *Annual Report,* 2007/08, p.12)

Thus a 'few projects' approach was found to be distinct from a 'PW only' because it did not follow a standard template of implementation, as dictated by a set of training modules but was more ad-hoc in terms of where and how Lean was used.

4.1.1.4 Programme

A further approach emerged from the data that was distinct from a *'few projects'* approach on the basis that the Trust had officially launched a 'programme' underpinned by Lean methodology. Whilst a 'few projects' approach might refer to two or more projects, a 'programme' approach confers a managed approach to Lean implementation. Here, the approach was found to differ from a 'few projects' approach because the projects were planned and connected often within a set duration, for example, across two years. A clear example of this approach can be seen in the Annual report (2009/10) of Ashford and St Peters Hospitals NHS Trust (case 63, Volume II).

> *'Last summer we introduced a programme to improve our services called EQUIP (Efficiency, Quality, Improvement and Productivity). It is based on the Lean methodology used extensively in the car industry. This methodology has helped us to transform services to deliver higher quality with less waste and inefficiency. Our EQUIP team has been working alongside a company called Simpler who are experts in applying lean techniques in different environments.' (p.40)*

In taking a programme approach, the emphasis was more on the planning of improvements that extend beyond discrete functions; to continue the example of Ashford and St Peters, the report goes on to describe the aims and objectives of improvements the programme focusing on patient flow. A further example of the planning element of a 'programme' can be seen in the following extract from East Kent Hospitals where the focus was on the patient pathway, an aspect of which had been marked out as a 'priority':

> *'The Trust has adopted the LEAN [sic] methodology to identify service improvements that improve the effectiveness of the patient pathway whilst contributing to economy and efficiency. The patient booking system has been prioritised as part of this programme.'* (Source: East Kent Hospitals Annual Report 2009/10:81)

4.1.1.5 A Systemic approach

A final category of approach emerged from the data that extends beyond that of a *Programme*. Some annual reports showed evidence of the Trust adopting Lean methodology as *'the way we do things around here'.* This was evidenced by the development of a unique system of working (underpinned by Lean methodology) that was championed at an executive level as a whole hospital approach. Some examples are *'the Blackpool way'* (case 33, Volume II) *'the Bolton Improving Care System'* (case 40, Volume II)*, 'the North East Transformation System Programme (NETS)'* (case 26, Volume II), *'The Countess Way'* (case 24, Volume II), and *'The South Manchester Way'* (case 49, Volume II). Often this type of approach was announced in the opening commentary by the Chairman and/or the Chief Executive and was aligned with the strategic goals of the Trust. For example, Airedale NHS Trust (case 113, Volume II) announces its objective in their annual report 2007/08 to: *Deliver our financial plan through rigorous financial management and Lean operational activity – operating efficiently, effectively and economically* (p.7).

Unlike a programme approach there was no suggestion that this approach was for a fixed time period; this approach to Lean was inferred as a long term approach with no end date, evidenced in particular by investment in specialist staff and an objective to train all Trust members. A systemic approach was ultimately a whole organisation approach, and was not described as a 'project' that was taking place in one area of the Trust, rather it was based on the ideal of involving and engaging everyone in improvement every day.

4.2 Distribution of approaches to Lean by English hospital Trusts

Figure 4.1 summarises the categories of approaches to Lean as a typology emergent from document analysis in T1 (2007/08). During T2, new approaches to Lean implementation did emerge from document analysis however these were variations of the 'Productive ward only' approach as the NHS Institute broadened the *Productive Series*. A number of annual reports cited an implementation of *Productive Theatres*, however as the approach is essentially the same as PW, i.e. a structured module led approach, the category was left unchanged.

Figure 4.1: Typology of approaches to Lean implementation

Tentative – Trust staff are contemplating Lean; there may be evidence of a pilot project in the annual report or staff magazine or a tender for external management consultancy to help with implementation identified in archival documents available on the Trust website.

Productive Ward Only (PW) – The annual report highlights the implementation of Productive Ward and/or Productive Theatre but no other evidence of Lean implementation is identified. The 'Productive series' is a structured programme of work devised by the NHS Institute for Innovation and Improvement (NHSIII) and has been rolled out nationally.

Few projects – The annual report describes one or more projects in the Trust that involve the implementation of Lean principles and methods. The projects tend to be functional, based in departments and do not appear to be linked in any way to a programme of improvement that focuses on processes across the whole organisation or across specific pathways.

Programme – The annual report or website identifies the use of Lean principles underpinning work programmes that cross the organisation and patient pathways and is expected to last between one and five years.

Systemic – The annual report refers to the process of embedding Lean principles in the Trust as a whole so that it becomes 'the way we do things around here'. This is often identified as part of the Chief Executive's statement in the opening pages of an annual report. A systemic implementation also emphasises Lean training for all staff and there is evidence of a long term commitment to Lean.

Following the categorisation of approaches to Lean implementation, the researcher was able to evaluate the data to portray a snapshot of Lean implementation by English hospitals at two points in time. Figure 4.2 illustrates the distribution of approaches to Lean implementation during T1 and T2. The vertical axis denotes the number of hospital trusts whilst the horizontal axis identifies the category of Lean with T1 and T2 differentiated by different shading. Overall, the graph identifies a decline in the number of Trusts making no reference to Lean at all in their annual reports or on their websites in T2 from T1 (characterised as 'No

Lean'), suggesting that Lean implementation has become increasingly widespread during this time period.

Figure 4.2: Lean Implementation in English hospital Trusts

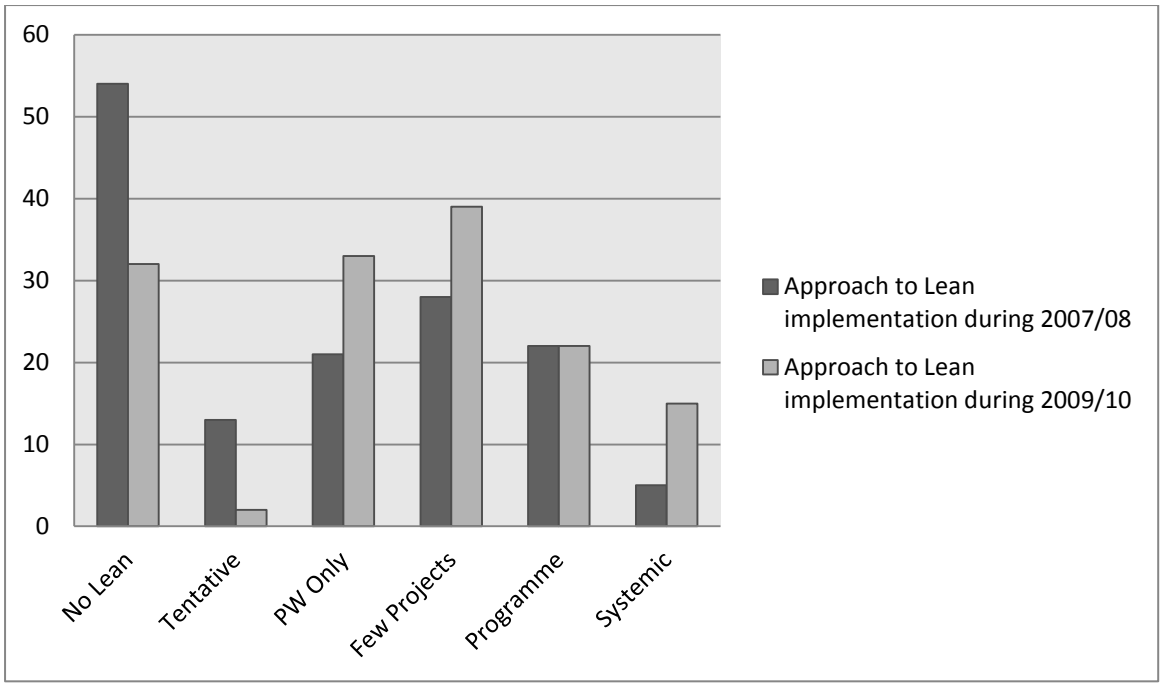


Figure 4.2 suggests that a 'few projects' approach was the most common approach during T1 and T2. The prevalence of a 'few projects' was largely anticipated in line with what is suggested in the academic literature, i.e. that many hospital Trusts are doing a few small projects based on Lean methodology but that this approach to implementation does not form an integrated approach to service improvement (Radnor 2010; Young and McClean, 2008; Spear 2005).

'PW only' was a popular approach during both periods T1 and T2. During T2 there was evidence of Trusts widening their approach to Productive Ward by implementing 'Productive Theatres'. Although the researcher should point out that the data does not reflect the number of Trusts implementing Productive Ward or any other 'Productive' approach as many Trusts will employ PW as well as taking a more advanced approach to Lean implementation, such as 'few projects' or 'programme' etc. A 'PW only' approach refers to Trusts who were *only* implementing a component of the Productive Series such as Productive Ward and/or Productive Theatres for example.

A ‘tentative’ approach to Lean implementation appears to decline from 13 Trusts in T1 to just 2 in T2. Given the increased popularity of Lean across the time period this could be explained as a reflection of organisations who are just *‘having a go’*, buoyed by the widespread use of Lean in other Trusts, and the championing of Lean by external stakeholders. For example, the Operating Efficiency Framework report (2009) promoted Lean methodology as an example of good practice in the public sector in relation to improving performance and making financial savings.

The number of Trusts articulating the implementation of Lean in the form of a Programme remained the same during T2 as in T1, however as the percentage of Trusts implementing Lean increased across the time period then the relative proportion of Trusts implementing Lean via a programme approach has declined slightly. In contrast, the number of Trusts articulating a systemic approach to Lean implementation had trebled from 5 Trusts in T1 to 15 Trusts in T2.

4.3 Trajectory of Lean implementation in English hospitals

Based on document analysis of annual reports, we can also use the typology of approaches to trace the trajectory of Lean implementation in English hospital Trusts. Figure 4.3 looks at the movement between the approach taken during T1 with the approach taken during T2.

Figure 4.3: Approach to Lean implementation during T1 and T2

	Approach to Lean T2 (number of hospitals)					
Approach T1 (number of hospitals)	No Lean	Tentative	PW Only	Few Projects	Programme	Systemic
No Lean	19	2	16	11	4	2
Tentative	1	0	5	5	1	1
PW Only	6	0	5	7	3	0
Few Project	2	0	4	14	5	3
Programme	3	0	3	2	9	5
Systemic	1	0	0	0	0	4

In figure 4.3, the numbers contained in the boxes of the centre diagonal identify the number of Trusts taking the same approach to Lean implementation during T1 as during T2. If we are to regard the emergent categories of Lean implementation as a taxonomic classification of Lean implementation, i.e. ranked from left to right in terms of an advanced implementation of Lean, then the white boxes to the right of the diagonal represent the numbers of hospital Trusts articulating an (ostensibly) more advanced implementation of Lean. Based on this premise we can see that the majority of hospital Trusts (70 Trusts, 49 per cent) have 'progressed' their implementation of Lean across the time period; this signifies that Lean is not just popular but Trusts are implementing Lean in an increasingly advanced manner. 51 Trusts are identified as taking the same approach during T2 as they were in T1 (36 per cent), and 22 hospitals move to the left of the centre diagonal (i.e. ostensibly downgrading their approach to Lean) which is comparatively low at 15 per cent.

Figure 4.3 suggests that the majority of Trusts have advanced their approach to Lean implementation across the period T1 to T2 – an early indication that English hospital Trusts are implementing Lean in a progressively systemic and strategic manner. Five Trusts progressed their 'few projects' approach to Lean implementation into a formalised 'programme' approach, and three appear to have progressed a 'few projects' approach to align Lean to organizational strategy, where Lean is stated as *'the way we do things around here'*, thereby warranting a 'systemic' classification in T2. Of the twenty two Trusts identified as taking a programme approach in T1, five progressed this approach towards a systemic organization-wide approach in T2.

4.4 The influence of context and the implementation of Lean

Of the 54 hospital Trusts that did not appear to be implementing Lean in any form during T1, 65 per cent of these hospitals had taken up some form of Lean implementation during T2. Two of these hospital Trusts became the only 'tentative' organisations in T2, i.e. there is evidence that they are exploring the possibility of implementing Lean; and two of these Trusts advanced to the other end of the taxonomic scale where the approach to Lean is classified as systemic. These two hospitals are identified as University Hospital of South Manchester NHS Foundation Trust (case 48) and Countess of Chester NHS Foundation Trust (case 34). Using document analysis we can compare these two Trusts to see whether the Trust's 'context' reveals any insights relating to the adoption of a systemic approach in T2.

4.4.1 Synopsis of 'context': University Hospital of South Manchester NHS Foundation Trust (UHSM)

UHSM is a medium sized Trust based in the city of Manchester in the North West of England. The Trust became a Foundation Trust (FT) in 2006 and has a track record of 'excellent' performance for its 'use of resources' across the past three years. The Chief Executive of the Trust changed during T1 and T2, the new Chief Executive was previously Chief Executive of Blackpool Fylde and Wyre Hospitals NHS Foundation Trust, a Trust where the approach to Lean implementation was categorised as 'systemic' during T1 and T2. The opening management commentary of UHSM's annual report (2009/10) denotes a period of instability and challenge during T2, and a categorical interpretation of 'crisis' is allocated due to the Trust's failure to achieve a number of key targets leading to breach of authorisation. Thus the context of the Trust's rapid ascension from 'no Lean' to a 'systemic' approach occurs in parallel to a period of organisational change and challenge, in particular: a new Chief Executive with experience of Lean methodology in a healthcare setting and a number of 'performance fires'.

4.4.2 Synopsis of 'context': Countess of Chester NHS Foundation Trust

The Countess of Chester NHS Foundation Trust (CCFT) is a medium sized Trust based in the affluent area of Chester in the North West of England. The Trust became a Foundation Trust (FT) in 2004, making it one of the first FTs in the country. This infers that the Trust has a history of strong performance. CQC performance ratings for 'quality of service' and 'use of resources' show the Trust to have an almost identical set of performance scores across the period of 2006-2009 to that of UHSM. Unlike UHSM, the Chief Executive of the Trust has remained in post for more than ten years and the annual reports for T1 and T2 suggest that the context of the operating environment is relatively stable with no notable performance issues highlighted.

In summary, to take these two examples of Trust's who have advanced their approach to Lean implementation from 'No Lean' in T1 to 'Systemic' in T2 we can see that although UHSM exhibits organisational conditions that mirror that of the 'exemplary' Lean implementations described in the literature and summarised in Chapter 2: *Exploring Lean,*

CCFT offers evidence that these conditions i.e. performance fires and a new Chief Executive might not be exclusive conditions associated with a systemic approach to Lean.

4.5 Limitations of document analysis

Further evidence that document analysis related to context is limited in its ability to infer detailed explanations as to the ascension or regression of Lean implementation can be seen in the case of Brighton and Sussex University Hospitals NHS Trust (case 64, Volume II). Out of the sample, thirteen Trusts in total appear to have stalled Lean implementation during T2; i.e., Lean was not mentioned in the annual report and no reference to Lean implementation could be found on the website. Of the thirteen Trusts that stalled Lean implementation in T2, one was identified as taking a systemic approach in T1. Thus while the data supports an increasingly systemic approach to Lean implementation, it does not however, suggest a linear transition from a tentative exploration through each implementation stage, furthermore it raises questions about the sustainability of Lean implementation in healthcare organisations (Bateman, 2005; Lucey et al, 2005; Radnor et al, 2012).

Without conducting more detailed analysis (for example a case study), one can only infer possible explanations as to why Brighton and Sussex University Hospitals NHS Trust downgraded its implementation of Lean. In the singular instance where a Trust has been identified as taking a 'systemic' approach in T1 and 'no Lean' in T2, the researcher can only speculate as to why this may have occurred and this brings to the fore the key limitation of a document analysis approach to data collection – that it lacks detail. Using the existing data related to this Trust, data relating to 'context' provides little clue about why Lean may have stalled. The data suggests that leadership is stable and the Trust does not appear to be in any financial difficulty or experiencing and difficulties related to performance. One possible reason for the lack of reference to Lean in the Trust's annual report (T2) could be that Lean principles have become orthodox in the Trust and thus it was deemed less noteworthy and novel than it was in T1's annual report. Alternatively, Lean was a management 'fad' that the Trust is no longer interested in. However, this might call into question the validity of the document analysis approach in categorising the approach to Lean as 'systemic', as this category should infer that the hospital sees Lean as *'the way we do things around here'*. Case study data would help to validate the approach to Lean taken by the Trust as systemic (or otherwise) in T1, and similarly to validate the inference that an approach of 'no Lean' is

taken by the Trust in T2. Furthermore, a case study would aid an explanation of the circumstances that may have hindered a systemic approach if indeed Lean had stalled.

4.6 S**ummary of Document Analysis**

Based on the findings of the content analysis of English hospital Trust annual reports, this chapter presents evidence of the increasingly widespread use and popularity of Lean across the duration of 2007-2010. The findings also point to evidence that the approach to Lean implementation varies between Trusts and that these approaches can be categorised according to the extent that Lean is being implemented across the organisation. In this chapter the researcher used the emergent categories of approaches to Lean to map a trajectory of movement from one approach to another with a view to exploring in more detail the progression (or deterioration) of Lean within English hospital Trusts. The data suggests that the majority of hospitals are progressing Lean implementation towards a more systemic approach however the data is limited in that it only reflects data at two points in time.

Looking in more detail at the approach to Lean and the movement of Trusts from one end of the proposed taxonomic scale to the other (i.e. from 'tentative or no Lean to 'systemic'), led to an examination of the internal context of the Trust using document analysis data. This examination revealed two very different contexts in relation to performance and Chief Executive stability, thus no relationship between context and approach to Lean can be reached using these two examples. This finding highlights two important limitations: first that a sample of two is not sufficient to draw any generalisations and second, document analysis data is highly abstract in relation to the size and complexity of a hospital organisation. Thus, more detailed data is needed to facilitate a more detailed and nuanced exploration of the relationship between context and Lean implementation.

Pettigrew et al., (1992, p.9) state, *'the analytical challenge is to connect up the content, context and process of change over time to explain the differential achievement of change objectives'*. In order to utilise the model in line with how it was intended we need to further combine these elements through ethnographic and case study analysis to generate a more detailed understanding and evaluation of Lean implementation in English hospitals.

The following chapter presents quantitative analysis based on the categories of approaches to Lean emergent from the document analysis data in relation to the Care Quality Commission

(CQC) performance scores awarded to each of the 143 hospital Trusts identified as operating in both T1 and T2.

Chapter 5: Quantitative Analysis

5.0 Chapter summary

This chapter seeks to explore the research question:

Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?

Building on the previous chapter this chapter takes the categories of Lean implementation identified through document analysis and cross references the approaches with the performance scores awarded by the Care Quality Commission (CQC).

During the years 2005 to 2009, the CQC audited NHS organisations annually against a raft of performance targets. The sum of these performance targets is then collated under two categories: 'Use of Resources' and 'Quality of Service'. The 'Use of Resources' category relates to how efficiently the organisation is using its resources i.e. the financial management of the Trust. 'Quality of Service' relates to more operational and patient based performance measures. During the years 2005-2009, each Trust in England received one of four performance scores for each of these two categories. The four scores are: excellent, good, fair or weak. The performance scores awarded to each of the Trusts operating in T1 and T2 for the years 2006/07, 2007/08 and 2008/09 can be found in the document analysis tables presented in Volume II.

5.1 Hypothesis: Lean implementation and Trust performance are related

A total of twelve hypotheses have been formulated, based on the research question: *Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?* The research hypotheses test not only whether there is any evidence that the approach to Lean leads to improved performance but also transposes the question to consider whether the performance of the organisation leads to the implementation of Lean. For example, it is conceivable that a Trust which is struggling with performance in certain areas might take a 'few projects' approach, thereby targeting

improvement in key areas rather than taking a longer term systemic approach that aims to change the culture of the organisation over time.

The results of each hypothesis test are presented and discussed with the aid of a stacked bar graph to show the distribution of approaches among categories of performance (and vice versa); a cumulative distribution line graph to assess similarities and differences between the categories and finally a Kruskal-Wallis test to conclude whether there is a significant difference between categories to determine whether we can reject the null hypothesis and accept that there is quantitative evidence that a relationship exists.

5.2 Hypothesis Testing

H1: Is there a relationship between a Trust's performance score T1 and the approach to Lean implementation T1

H_o1a: The approach to Lean implementation T1 has no influence upon the score for 'use of resources' T1

Figure 5.1 illustrates the distribution of performance scores (T1) under the category of 'use of resources' amongst the categories of approaches to Lean implementation. The graph suggests that the performance scores are relatively evenly distributed amongst each of the categories of Lean implementation. The exception in the graph is the category of 'systemic' which shows that only Trusts scoring fair or good are in this category. However, we should discount any suggestion that this infers a relationship as the sample size is just 5 hospital Trusts in T1.

Figure 5.1: Approach to Lean T1 and the distribution of scores for 'use of resources' T1

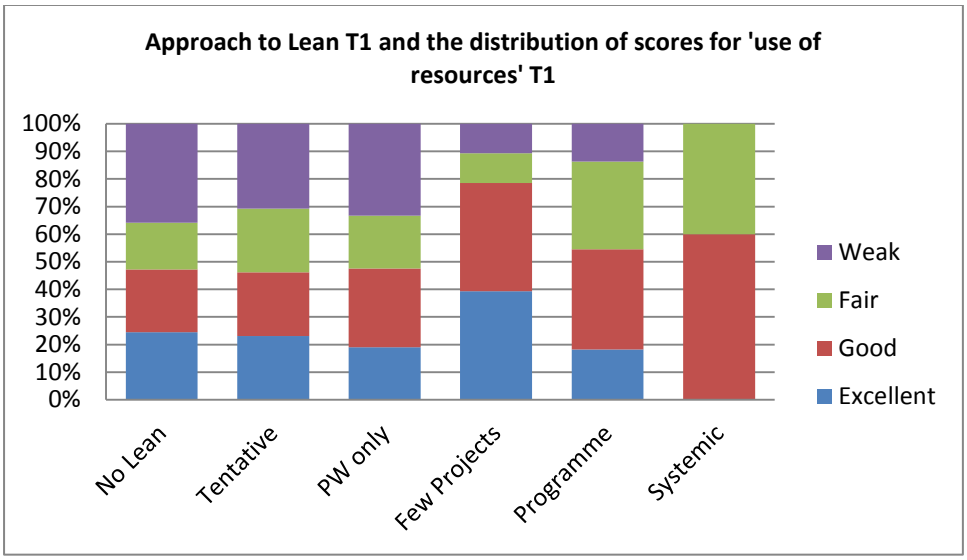
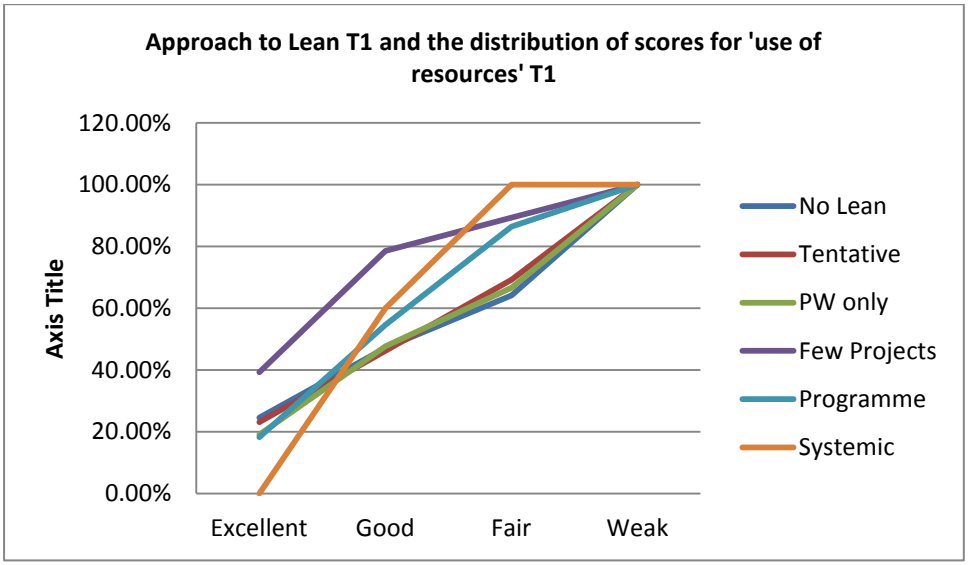


Figure 5.2 presents a cumulative distribution graph of the approach to Lean T1 by English hospitals and the scores for 'use of resources' T1. Looking at the graph (again discounting the category of 'systemic' due to the small size of the sample) we can see that the distribution lines for categories of 'no lean', 'tentative', and 'pw only' are remarkably similar, virtually overlapping. The line representing a 'few projects' approach and a 'programme' approach are dissimilar, however a p-value of 0.101 leads us to retain the null hypothesis H_o1a: There is no quantitative evidence that the approach to Lean implementation during T1 influences the performance scores for 'use of resources' T1.

Figure 5.2: Cumulative distribution graph of the approach to Lean T1 by English hospitals and the scores for 'use of resources' T1.



H_o1b: The score for 'use of resources' T1 has no influence upon the approach to Lean implementation T1

H_o1b seeks to explore whether there is any quantifiable evidence for the contention that the performance score for use of resources during T1 has any influence upon the approach to Lean T1. The stacked bar graph in figure 5.3 suggests a picture similar to above where there is a mix of approaches across each of the performance categories. Again the cumulative distribution line graph in figure 5.4 shows all categories of approach to Lean to be similarly distributed, however a p-value of 0.044 suggests that we can in fact reject the null hypothesis and consider the possibility that the score for use of performance during T1 may have some influence on the approach to Lean T1. Further examination of figures 5.3 and 5.4 finds some indication that there is a higher incidence of Trusts that are categorised as 'No Lean' with a 'weak' performance score for 'use of resources' T1. This suggests that Trusts scoring 'weak' for 'use of resources' during T1 are the least likely to be implementing Lean in T1.

Figure 5.3: Stacked bar graph showing the distribution of performance scores for 'use of resources' T1 across categories of the approach to Lean T1

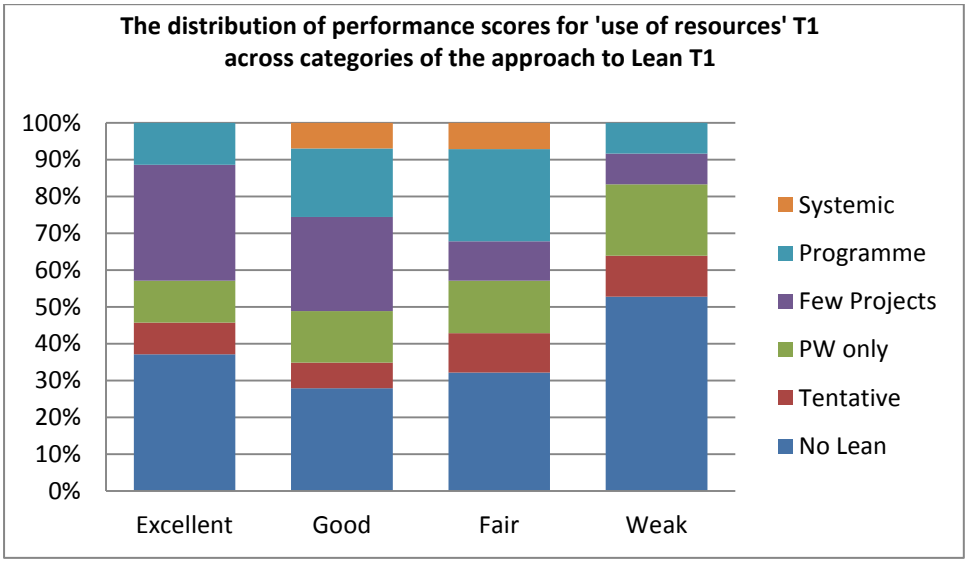
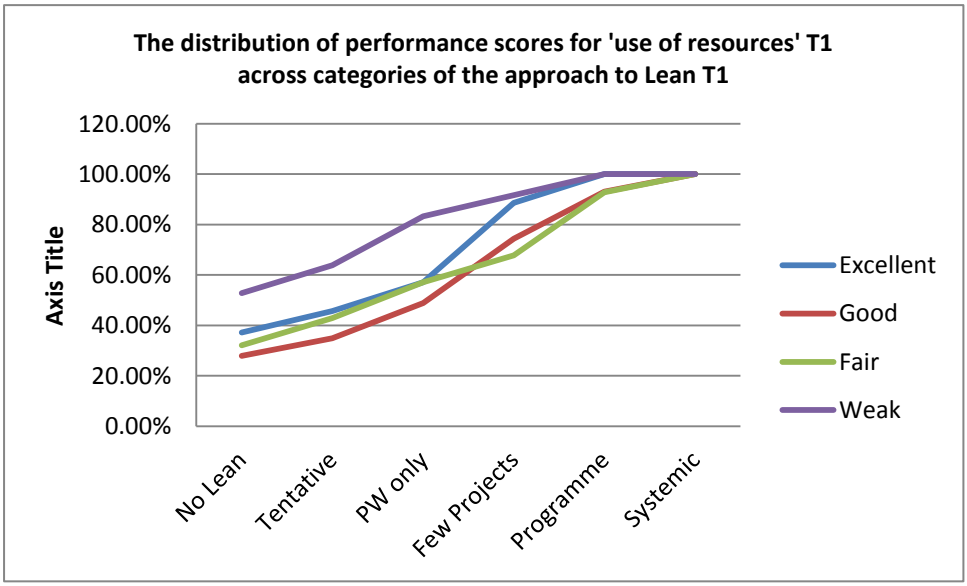


Figure 5.4: Cumulative distribution graph of the approach to Lean T1 by English hospitals and the scores for 'use of resources' T1.



H_o1c: The approach to Lean implementation (T1) has no influence on the performance score for 'Quality of service' (T1)

H_o1c replicates H_o1a with performance scores for the category of 'quality of service'. Figure 5.5 illustrates a mixed picture where performance scores for quality of service are not so evenly distributed amongst each of the categories of Lean implementation, just four out of the six categories of approaches to Lean contains organisations scoring 'excellent' for 'use of resources'. The cumulative distribution line graph (figure 5.6) shows similar lines of distribution across all categories with the exception of a 'few projects' approach which seems slightly elevated from the rest of the categories. Referring back to Figure 5.5 we can see that the category 'few projects' does not contain any Trusts scoring 'weak' for 'quality of services'. A p-value of 0.828 does not suggest however that we can reject the null hypothesis H_o1c, thus there is no quantitative evidence to suggest the approach to Lean (T1) influences the score for 'quality of services' (T1).

Figure 5.5: Approach to Lean T1 and the distribution of scores for 'Quality of Services' T1

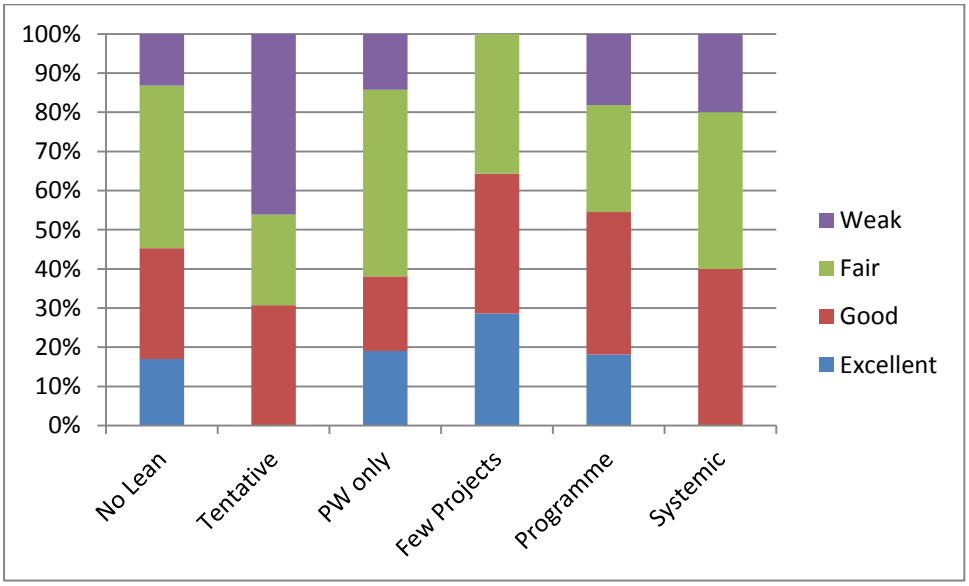
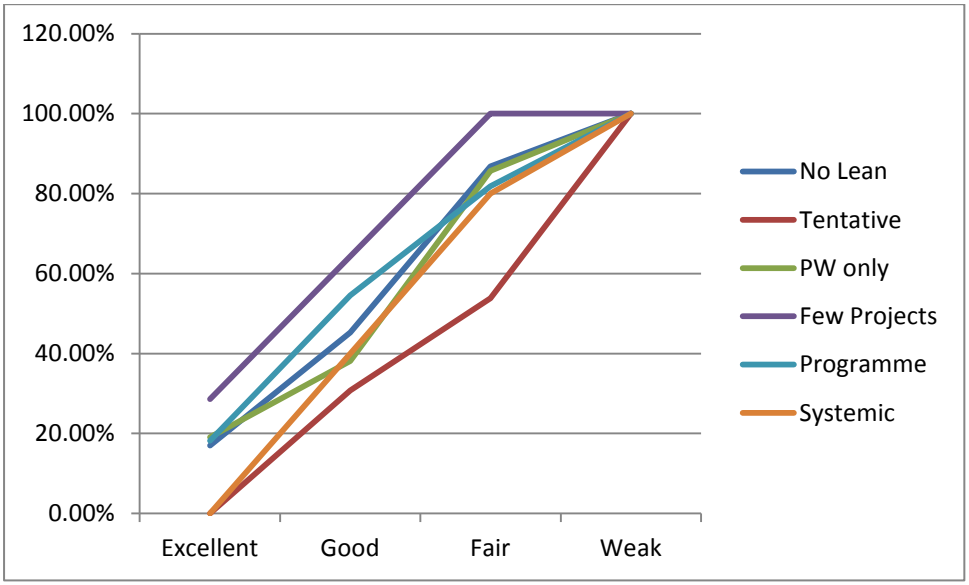


Figure 5.6: Cumulative distribution graph of the approach to Lean T1 by English hospitals and the scores for 'Quality of Services' T1.



H_o1d: The score for 'Quality of Services' T1 has no influence on the approach to Lean T1.

H_o1d replicates H_o1b with performance scores for the category of 'quality of service'. Figure 5.7 suggests that there is a dominance of the 'few projects' and the 'no lean' category in Trusts scoring excellent for 'quality of service' T1. Similarly, Trusts scoring 'weak' for 'quality of services' in T1 do not appear to take a 'few projects' approach to Lean and the majority of Trusts in this performance category are not implementing Lean at all. Figure 5.8 supports this analysis showing the cumulative distribution line for Trusts scoring 'weak' for 'quality of services' to be shaped differently to the other performance categories. A Kruskal-Wallis test confirms this difference; a p-value of 0.030 means that we can reject the hypothesis suggesting that there is some quantitative evidence that the approach to Lean may be influenced by the performance score for 'quality of services'.

Figure 5.7: Stacked bar graph showing the distribution of performance scores for 'quality of services' T1 across categories of the approach to Lean T1

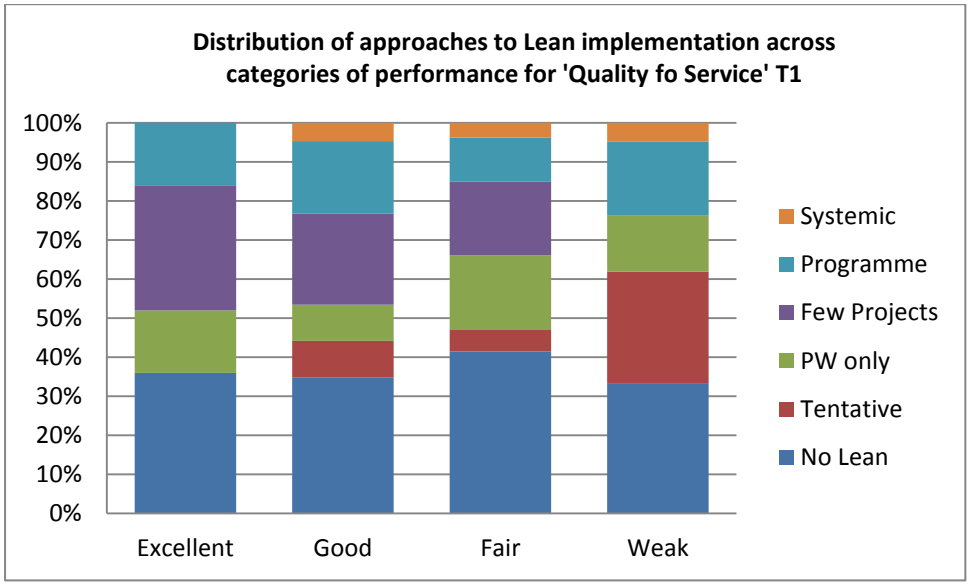
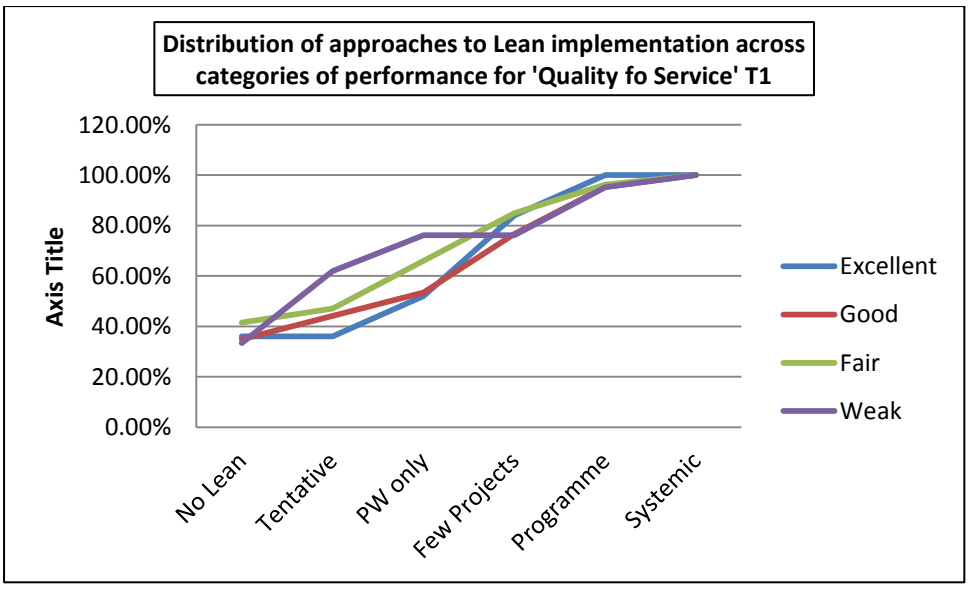


Figure 5.8: Cumulative distribution graph of the approach to Lean T1 by English hospitals and the scores for 'use of resources' T1.



5.2.1 Summary of findings: *Is there a relationship between a Trust's performance score T1 and the approach to Lean implementation T1?*

Table 5.1 summarises the analysis and findings relating to H1: *Is there a relationship between a Trust's performance score T1 and the approach to Lean implementation T1*. The table identifies two incidences where the null hypothesis is not supported, suggesting that there performance scores for use of resources and quality of service may influence the approach to Lean implementation. Figures 5.3, 5.4, 5.7 and 5.8 offer some explanation for this finding suggesting that Trusts scoring weak performance scores are more likely to be adopting a 'No Lean' approach to Lean implementation, i.e. they are least likely to be implementing Lean in T1.

Table 5.1: Is there a relationship between a Trust's performance score T1 and the approach to Lean implementation T1 (H1)

Null hypothesis	*p*-value	Retain/Reject ($\alpha = 5\%$)	Summary
H_o1a: The approach to Lean implementation T1 has no influence on the performance score for 'use of resources' T1.	0.101	Retain	There is no quantitative evidence that the approach to Lean implementation in T1 influences the score for 'use of resources' T1
H_o1b: The score for 'use of resources' T1 has no influence upon the approach to Lean implementation T1.	0.044	Reject	There is some quantitative evidence that the score for 'use of resources' T1 may influence the approach to Lean implementation T1.
H_o1c: The approach to Lean implementation T1 has no influence upon the score for 'Quality of Service' T1.	0.828	Retain	There is no quantitative evidence that the approach to Lean implementation in T1 influences the score for 'quality of service' T1.
H_o1d: The score for 'Quality of Service' T1 has no influence upon the approach to Lean implementation T1.	0.030	Reject	There is some quantitative evidence that the score for 'quality of service' T1 influences the approach to Lean implementation T1.

H2: Is there a relationship between a Trust's performance score T2 and the approach to Lean implementation T2

The following set of hypotheses mirror the previous set but using T2 data regarding the approach to Lean and the performance score for use of resources and quality of services respectively. This second set of hypotheses does not support the pattern observed in T1 whereby Trusts with weak performance scores appear to be correlated with a category of 'no lean'. For each of the hypotheses we see a random distribution across all categories, an observation confirmed by p-values outlined in table 5.2 below.

Table 5.2: Is there a relationship between a Trust's performance score T2 and the approach to Lean implementation T2 (H2)

Null hypothesis	*p*-value	Retain/Reject ($\alpha = 5\%$)	Summary
H_o2a: The approach to Lean implementation T2 has no influence on the performance score for 'use of resources' T2.	0.276	Retain	There is no quantitative evidence that the approach to Lean implementation in T2 influences the score for 'use of resources' T2
H_o2b: The score for 'use of resources' T2 has no influence upon the approach to Lean implementation T2	0.535	Retain	There is no quantitative evidence that the score for 'use of resources' T2 influences the approach to Lean implementation T2
H_o2c: The approach to Lean implementation T2 has no influence upon the score for 'Quality of Service' T2	0.920	Retain	There is no quantitative evidence that the approach to Lean implementation in T2 influences the score for 'quality of service' T2
H_o2d: The score for 'Quality of Service' T2 has no influence upon the approach to Lean implementation T2	0.435	Retain	There is no quantitative evidence that the score for 'quality of service' T2 influences the approach to Lean implementation T2

H3: Is there a relationship between a Trust's performance score T1 and the approach to Lean implementation T2

This third and final set of hypotheses takes into consideration a potential time lag between the approach to Lean implementation and the influence of that approach upon performance scores. Again, rather than looking at each individual graph as in the first set of hypotheses, table 5.3 outlines the null hypotheses to be tested and the corresponding *p*-value.

Table 5.3: Testing for a relationship between a Trust's performance score T1 and the approach to Lean implementation T2

Null hypothesis	*p-value*	Retain/Reject ($\alpha = 0.05$)	Summary
H_o3a: The approach to Lean implementation T1 has no influence upon the score for 'use of resources' T2	0.406	Retain	There is no quantitative evidence that the approach to Lean implementation in T1 influences the score for 'use of resources' T2
H_o3b: The score for 'use of resources' T1 has no influence upon the approach to Lean implementation T2	0.493	Retain	There is no quantitative evidence that the score for 'use of resources' T1 influences the approach to Lean implementation T2
H_o3c: The approach to Lean implementation T1 has no influence upon the score for 'quality of service' T2	0.479	Retain	There is no quantitative evidence that the approach to Lean implementation in T1 influences the score for 'quality of service' T2
H_o4d: The score for 'Quality of service' T1 has no influence upon the approach to Lean implementation T2	0.987	Retain	There is no quantitative evidence that the score for 'quality of service' T1 influences the approach to Lean implementation T2

5.3 Summary of quantitative analysis

Twelve hypotheses have been tested using the Kruskal-Wallis nonparametric test to try to establish whether there is any quantitative evidence to support the impact of Lean upon Trust performance. Of the twelve hypotheses tested, the results of ten showed no relationship between Lean and performance forcing acceptance of the null hypotheses. Two null hypotheses were rejected however, suggesting that there is some quantifiable evidence that the performance scores for both 'use of resources' and 'quality of service' during T1 was related to the approach to Lean in T1. Upon closer examination, the stacked bar graphs and cumulative distribution graphs for this data identify a high incidence of Trusts implementing 'no lean' aligned to weak performance scores under both categories. This finding suggests that Trust's scoring 'weak' performance scores were not typically early adopters of Lean methods and methodology.

In summary, the data holds little support for the contention that Lean is having an impact on the performance of English hospital Trusts. However, the limitation of this approach to data analysis is that it uses document analysis data and this data presents a high level of abstraction. Related to this, English hospitals are typically large and complex organisations, thus it is possible that the impact of Lean resides not at the organisational level but at a more localised level of the organisation, necessitating a more detailed analysis to evidence the impact of Lean in English hospital Trusts.

Chapter 6: Case Study Analysis

6.0 Chapter Summary

This chapter presents findings from the case study research. Selected on the basis of the approach taken towards implementing Lean in T1 (informed by the document analysis, chapter 4), the four case studies facilitate a degree of validation (or otherwise) for the document analysis findings i.e. that discernible approaches to Lean implementation exist between English hospital Trusts. The case studies also enable further elaboration and much finer grained detail of the context, process and content of Lean implementation in English hospital Trusts. The case study findings relate to all three research questions through an elucidation of the 'approach' taken to implement Lean, and thus whether one approach can be differentiated from another (research question 1); qualitative data relating to the impact of Lean implementation (research question 2); and the influence of context upon the implementation of Lean (research question 3). Essentially, the case studies offer rich and insightful descriptions of the reality of Lean phenomena through the experiences of staff at various levels in the Trust, thus facilitating theory building (Eisenhardt, 1989, 1991).

6.1 Overview of case studies

Table 6.1 presents an overview of the case studies selected for analysis. The researcher aimed to conduct between 10 and 12 interviews with a cross section of employees, (each lasting approximately 1 hour), in each case study organisation. Due to the proximity of case study 1 to the researcher's place of study a total of 19 interviews took place here over a longer period of time. Each interview was recorded and transcribed verbatim by the researcher, and analysed using Nvivo 8 software as described in chapter 3, section 3.9.3.4. The interview protocol used by the researcher can be found in appendix 1.

Case studies 1 and 2 (University Hospitals Coventry and Warwickshire, UHCW, and East Lancashire Hospitals Trust, ELHT) were selected as a 'matched pair' with a similar demographic, similar organisation size, a recent change of Chief Executive, and categorized as taking a 'programme' approach to Lean implementation during T1; a 'programme' approach is identified as a series of planned and co-ordinated projects that take place across a specific time frame, often 2 years or more (see chapter 4). However, despite the apparent similarities between case study 1 and 2, the interviews at ELHT soon revealed that Lean

implementation had recently stalled in the Trust. This makes the comparative case study a powerful approach because it prompts consideration of the differences between the organisations to help develop an understanding of why an ostensibly similar approach yields a different outcome (Pettigrew et al, 1992). Given the cessation of Lean implementation in ELHT however, this was the only Trust where participant observation did not take place.

Case study 3 was Royal Bolton Hospitals NHS Foundation Trust (RBH). This Trust was selected as an exemplar case study (Yin, 2003) as it was the only Trust in England where the Chief Executive had published details of the Trust's commitment and approach to Lean in academic journals as well as practitioner papers (as discussed in chapter 2: Exploring Lean). The Chief Executive of Royal Bolton Hospitals (RBH) claims that the Trust is the first in the UK to be implementing Lean across the whole organisation and has received international attention and interest in its approach. Document analysis of the annual reports of RBH (see case 39) also identifies the Trust to be taking a systemic approach.

The fourth and final case study took place at St Helen's and Knowlsey NHS Teaching Hospitals Trust (SHK). SHK was identified as taking an approach to Lean that is discernibly different to that taken by case studies one, two and three, that of 'few projects'. Document analysis (chapter 4) differentiates a 'few projects' approach from a programme approach and a systemic approach. A few projects approach differs from a programme approach in that the projects are unconnected, perhaps 'target' related, with a focus on short term goals rather than forming part of a co-ordinated approach to service improvement ('programme'), or an organisation wide approach to Lean implementation where the stated goal is for Lean to become 'the way we do things around here' ('systemic').

Table 6.1: An overview of the four case studies

	University hospital Coventry and Warwickshire (UHCW)			East Lancashire Hospitals NHS Trust (ELHT)			Royal Bolton NHS Foundation Trust			St Helens and Knowsley NHS Trust		
Size of Trust	Large (6500 employees)			Large (7000 employees)			Medium (3360 employees)			Medium (4000 employees)		
Approach to Lean T1 / T2 (inferred through document analysis)	Programme / Programme			Programme / PW only			Systemic / Systemic			Few projects / Few projects		
Number of face to face interviews	19			12			10			7		
Participant observation	Yes			No			Yes			Yes		
Performance scores (CQC)	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
Quality of Service / Use of Resources	Weak / Good	Good/ Good	Good / Good	Fair / Fair	Good / Weak	Fair / Fair	Good / Good	Good / Good	Fair / Good	Good / Good	Excellent / Excellent	Excellent / Excellent
Date case study took place	Jan – May 2009			July 2009			February 2010			November 2010		

6.2 Presentation of Case Studies

The findings of each case study are organised into five sections. The first section presents a background and overview of the Trust containing any relevant contextual information about the Trust at an organizational level e.g. the performance scores awarded to the Trust in recent years; the history of Lean implementation in the Trust, and the approach to Lean implementation as identified by the document analysis data. The second section relates specifically to the 'internal context' of Lean implementation and presents findings relating to the perception of Lean and Lean implementation in the Trust and also what respondents perceived to be the key drivers of Lean in the Trust, in other words the 'context' of Lean implementation. The third section relates to the 'process' of Lean implementation in the Trust with respect to how Lean is implemented, i.e. what training, tools and methods of implementation were reported by the respondents and also through the researcher's own observations. The fourth section presents findings relating to the 'content' of Lean and describes the specific impact and outcomes of improvement activity in the Trust as perceived by the respondents. The fifth section presents findings relating to the complexities of Lean. Such complexities are reported separately as they reflect the interrelationship between context, process, and content (Pettigrew et al, 1992). Finally, key findings relating to the case study are summarized in a table to facilitate a comparison of context, process and content of Lean implementation between the cases studied.

The reader should note that the write up of each case study differs in length and detail and this is a natural reflection of the different approaches to Lean implementation taken by the Trusts and the different stages in their Lean journey where a more systemic approach to Lean by an organisation should naturally present the researcher with more experiences and observations of Lean implementation to draw upon.

6.3 University Hospitals Coventry and Warwickshire (UHCW)

6.3.1 Background and Overview of Lean implementation in the Trust

UHCW was selected for case study as the Annual Report relating to 2007-08 cites a rollout of Lean methodology to specific areas of the Trust consistent with a 'programme' approach to Lean implementation (see Volume II, case 108).

UHCW is a large Trust with approximately 6500 employees across two hospitals: University Hospital, located at Walsgrave, and the Hospital of St Cross located in Rugby. The Coventry site is a PFI build (Private Finance Initiative) completed in 2006 when the hospital moved from the old site to the new. The population catchment served by UHCW is around 1 million people.

In 2006, external consultants GE facilitated a number of Lean-led projects in the Trust conducting training in Lean principles throughout the organisation. External consultants The HealthWorks (THW) superseded the role of GE during 2008 to assist the Trust in formulating a 'programme led' approach to the implementation of Lean. THW was chosen over GE as the interim Chief Executive at the time felt that the approach taken previously by GE was too 'adhoc'. THW spent 3 months designing a programme of activity consisting of 18 projects across three streams. The projects that form part of the programme are led by an internal team of Lean facilitators and programme managers known as the 'IMPaCT' team. At the time of the case study the IMPaCT team consisted of nine full time members, some of whom are on secondment from clinical roles.

The IMPaCT programme began officially in January 2009 thus at time of case study the programme was in its very early stages although the planning and a few early projects had been completed at this point. The IMPaCT team aimed to meet on a weekly basis to brief the rest of the team members on programme work schedules, project highlights/lowlights, concerns/issues, etc.

The Chief Executive of the Trust at the time of the case study was Malcolm Stamp CBE[15], formerly Chief Executive of NHS London Provider Agency. Malcolm came into post in January 2009 by which time the IMPaCT programme was already in place and running. Malcolm instructed external consultants QFI whom he had worked with in the past to enter

[15] Malcolm Stamp left his role at UHCW shortly after the case study took place having been in post for less than one year.

UHCW in December 2008 in order to assess the situation with a view to tackling problems in A&E. QFI focus on a technique known as 'Theory of Constraints' (ToC) and use synchronization software known as Jonah to provide live data on bed related activity. Also, since Malcolm's arrival other external consultants Meridian had been instructed to work in therapy carrying out 'utilization studies'.

6.3.1.1 Interviews

In total, 19 face to face interviews took place in the Trust between March and May 2009 with a cross section of staff from both hospital sites including external management consultants and members of the executive team (including the Chief Executive). The job titles of respondents are listed in Table 6.2. The researcher was also able to observe a three day rapid improvement event (RIE) to improve the Pre-operative pathway process known in the organisation as PAAC during February 2009.

Table 6.2: List of respondent job titles

Job Title
Hospital manager
Ward Sister
Pre-op Nurse
Lean Leader (IMPaCT programme team)
Lean Leader (IMPaCT programme team)
Support Worker
General Manager (ENT)
Associate Director of Finance and Operations
Head of ICT programmes
Chief Operating Officer
Project Manager, Productivity Improvement (IMPaCT)
Director of Clinical Development (Consultant Surgeon)
Admin and Performance Manager
Head of Productivity and Improvement
Project Manager – (IMPaCT)
Clinical Director (Consultant Surgeon)
External Management Consultant – The HealthWorks
External Management Consultant – QFI
Chief Executive Officer

6.3.2 The Context of Lean implementation

6.3.2.1 Understanding Lean: 'what is Lean?'

There was a mixture of responses regarding what is Lean. Some more knowledgeable responses came from more senior staff reflecting upon the need for wider system and cultural change; such responses contrasted with those understanding Lean in terms of 'waste' and focusing on isolated functional changes. There was a marked difference between those who had been engaged with activity prior to IMPaCT (i.e. with GE) and/or in other settings and those who had only recently been introduced to Lean through the work of IMPaCT. Those who had only taken part in recent activity (their first encounter being through the recent Rapid Improvement Events (RIEs)), had a much more basic understanding, choosing to adopt the mantra 'work smarter, not harder'.

Two respondents gave some indication of the need to understand 'value', but no one explicitly stated the importance of value from the 'customer' perspective as advocated in Womack and Jones (1996).

> *"…you talk about getting rid of waste but until you actually know what you need to do you don't know what you need to do"* (Consultant Surgeon)

> *"making things better for everyone…let's get it right first time, reduce the errors and make sure patients go away feeling they have had a professional service"* (Outpatients Administration & Performance Manager)

Respondents who had background knowledge of a range of improvement methodologies in a range of settings viewed Lean as *'good process management'* (Associate Director of Finance and Operations) and *'something we should be doing anyway'* (Project manager – Productivity Improvement).

Respondents at a middle management level tended towards a view of Lean as cultural change, recognizing that this type of change does not happen overnight:

"Everyone claims to be doing Lean but they are really just doing a tidy up, playing round the edges. If we can build it into the daily work and culture, that's a big step forward" (Hospital Manager)

The view of senior executive management was much more towards a view of Lean as one of a collection of methods and one that is reflective of a management fashion. The Chief Executive Officer (CEO) was very clear in his interview that what he believes in is *'good process management'*, and that Lean should be incorporated alongside many other management techniques such as business process re-engineering, work study and patient story, ultimately he says *"it's about having evidence that what you are seeing is a cultural shift from the acceptance of the norm to the challenge of the status quo"*.

6.3.2.2 Drivers of Lean implementation

i. Performance Targets and Finance

The overriding perception of what drove the Trust was that of various targets and the pursuit of Foundation Trust status (FT). Targets mentioned include the 18 week target and efficiency/financial targets, also the cost of living in a *'very expensive building'* (this was reference to the cost of repayments on a newly built hospital under the Private Finance Initiative (PFI)). Specifically in relation to the move into a brand new hospital building there was realisation that old processes and ways of working had been brought into a new building and thus the facilities were not being fully utilised.

The predominant perception that the driver of service improvement in the Trust was finance however was apparent at all levels of the Trust from executive directors and senior clinicians through to managers, matrons, sisters and nurses.

A number of respondents did state that Lean was about good process management and that in turn could bring about savings:

"[It's] less chaotic when things run smoother so we can retain our staff, again that's a financial benefit for the Trust, patients will want to come here and that will bring in extra revenue" (Lean Leader)

"when I first had it explained to me 3-4 years ago Lean was not about saving money, it was about getting good processes and through good processes come savings" (Associate Director of Finance and Operations)

ii. Quality

Quality of patient care was mentioned a number of times often in the sense of 'an ideal world' rather than a reflection of what actually drove the Trust.

Conversely the drivers of service improvement as presented by the COO and the CEO were not articulated as being target or financially led, rather more quality led. The Chief Operating Officer gave a compelling account of his firm commitment to modernisation: *'it is fair to say I am a keen advocate and driver of the project'.* The COO articulates his view of service improvement in the Trust:

"I'm very passionate that by improving clinical outcomes and productivity you drive out costs to reinvest into the service…improvements is to the core of what I do."

Finally, the Chief Executive gives a firm account of his own vision for UHCW:

"I want top notch researchers, top notch clinical leaders with portfolios and the only persons that benefit are the NHS and patients in Coventry and Warwickshire and why should a university hospital in Coventry and Warwickshire with such potential not get the benefit. I think it's morally wrong. Quite passionate about that..."

6.3.3 The Process of Lean implementation

6.3.3.1 A Programme approach

All respondents were familiar with other activity taking place in the Trust outside of their own areas of involvement and many were aware that 18 projects had been planned across three work streams. Respondents were however unable to recall them. A number of respondents expressed an opinion over the number of projects; the split between those who thought the projects were 'far too many' and those who believed it to represent a 'coordinated approach' was roughly equal. One respondent was in two minds about it:

> *"part of me thinks, oh gosh its overkill but the other side of me thinks if we do two at the same time people's brains are triggered [which] may kick off something in the next event they go to"* (Outpatients Administration & Performance Manager)

This split of opinion as to which way was the right way was reflected by the stark difference in approaches to service improvement between that of the The HealthWorks (THW) and that of QFI:

> *"when we started working with Malcolm back in Addenbrookes, they had 28 improvement projects running and we managed to demonstrate rather quickly that they should stop running 27 of them and take all of the resources off…and put them on the one that's causing problems"* (QFI)

On the other hand, THW felt that the projects were 'easy' emphasising an interlocking of projects to represent the pathway level, 'bringing people out of their silo's'.

6.3.3.2 Training in Lean

The majority of respondents who had received training in Lean referred back to that given by GE in 2006, with only the Lean facilitators remarking on THW training. Those who received training from both the former consulting company GE and the current consultants THW drew

distinct differences between the nature of the training given with GE focusing around Lean and Lean principles and the THW training focusing on softer skills of event facilitation, project management and change management. At the time of the case study there was no evidence of general training in Lean principles accessible to the Trust's 6500 staff.

The approach to Lean implementation taken by THW was very different to the approach taken by GE. The role of THW was that of an 'enabler' to equip the IMPaCT team with the necessary skills for representing a sustainable internal change team rather than doing the work for them.

6.3.3.3 Observation of Lean Implementation

The researcher observed a rapid improvement event (RIE) to improve the flow of patients through the Pre Anaesthetic Assessment Centre (PAAC). The three day RIE begun with an introduction from the Chief Operating Officer (COO) who pledged his support and enthusiasm for the work, inviting participants to help 'unblock' anything which may impede progress. In relation to this commitment, the COO states: 'use my name in vain' (meaning refer to my name when you need to persuade managers and clinicians to help implement change). The aim of the RIE was clearly advocated by the COO to 'work smarter, not harder' a mantra to which staff responded positively. Some of the nursing staff were motivated by the requirement to present their findings and proposed actions to the COO at the end of the three day RIE.

This introduction was for many the first introduction to Lean. During this introduction participants were introduced to the concept of seven types of waste. The principles of Lean such as 'value' and 'flow' were paid little attention to. The RIE devoted 1 day to process mapping with a few key members of staff plotting the pathway with post-it notes. There was some frustration amongst senior doctors on the day owing to the small size of the room for the number of people and the noise level was considered too much for them. The facilitators did their best to resolve this problem.

6.3.4 The Content of Lean implementation

6.3.4.1 Description of Impact and outcomes

Many of the respondents remembered with clarity some of the changes made when GE were in the Trust two years ago as well as the outcomes and subsequent actions arising from the early stages of the IMPaCT programme. Regarding the IMPaCT programme the interviews taking place in March 2009 indicate clear evidence of a high level of engagement and empowerment among staff who have been involved in recent events, many of whom appear energised by the implementation of small changes to the process. These small changes are simple, easy to implement and effective in relation to the improvement of efficiency and flow, quality of patient care and as a means to 'work smarter not harder.'

The impact of the Lean work is described under the following five sub-headings:

i. Simple changes

ii. Focus on Patient Value

iii. Team camaraderie and 'Learning to See'

iv. Implementing New Standards

v. Challenging the steps

i. Simple changes

Some of the 'simple' changes that came out of the PAAC improvement event included changing the signage around the Trust and removing unnecessary patient data fields from multiple forms reducing the amount of time spent collecting unnecessary data from the patient. One department was found to have had several different names confusing both staff and patients leading to patients getting lost and staff sending patients in the wrong direction; this problem was collectively acknowledged during the PAAC RIE and steps towards remedial action were put in place immediately:

> *"They agreed with PFI people that they could put temporary signs up…just cut through before they had finished the weeks work"* (General Manager)

Other small changes discussed in interviews as part of the IMPaCT work included: implementing simple queuing systems, removing duplicate forms and adapting the terminology of a clinician's letters to patients to avoid patient confusion. These changes were easy to implement yet very effective towards delivering a smoother service to patients resulting in a high level of enthusiasm and engagement amongst staff at the time of interview. When asked about longer term changes there were views that many small changes 'add up.' One senior respondent pressed about longer term actions in the Trust stated: *'longer term actions unfortunately are around the culture of the Trust'* (Associate Director of Finance and Operations). Referring to the small proportion of patients sent to PAAC (Pre-Anaesthetic Assessment Clinic) for a pre-op examination by clinicians this person highlighted the need for evidence of the benefits in order to bring about behavioural change in relation to their corresponding support services.

> *"a lot of consultants don't use [PAAC] because they've got no faith in it…I think it's about making changes and communicating them to get them to have faith in the system again and start using it. In terms of seeing the benefits of that (which is reduced cancellations) that's going to be quite a long way off"* (Project Manager)

ii. Focus on Patient Value

A key principle of Lean is to determine value from the perspective of the customer. In a hospital environment there are many stakeholders and thus the term customer can mean many things, some of which may present conflicting objectives as the following quote demonstrates:

> *"bringing back people 6 times before you operate on them is frustrating for the staff, it's a waste of time for patients, we have to do 6 times the amount of preparation… the double edge sword to that is we get 6 lots of income, if you halve the number, you halve the income"* (General Manager)

Evidence of a movement towards a patient focus was developing but the need to be reminded of the patient perspective was still apparent.

"One of the outcomes of some of the events is that we've made a lot of presumptions as to what do the patients want, then when we've actually gone to do it it's been completely different. Like for instance we'd been planning a one stop clinic but when we asked the patients they didn't want a walk in clinic they wanted to come back at a particular slot" (Project Manager)

iii. Team camaraderie and 'Learning to See'

There was strong evidence of team camaraderie relating to the recent work with IMPaCT and previous work with GE, suggesting there is long term value of getting people to come out of their functional silos and work collaboratively together.

"First of all the theatres staff were able to get together and have a good moan about all the problems and that was good" (Consultant)

"Everybody was there so we could flag up problems that are stopping the planning of operations" (Nurse)

"The event finished with us volunteering for tasks" (Sister)

The majority of participants, perhaps all of them, were learning about the process from one end to another and its wider context often for the first time. This 'learning to see' activity had a profound and lasting effect on many.

"You can see the people go, 'oh yeah, that's not good is it', you sit back and take it all in" (Outpatients Administration & Performance Manager)

iv. Implementing New Standards

Some interesting projects were described relating to the implementation of Lean with GE that sought collective agreement upon the standardisation of certain processes. Some far reaching

changes were recalled that had a sustained impact on patient flow, quality of service and quality of care. For example, in Trauma, the decision to protect a bed for neck-of-femur patients was made on the basis that this type of patient occurred around once a day and that patients were known to do badly if not operated on early. This was a major change to the scheduling of operations but the 'list' with the protected bed mitigated conflicting interests of specialist surgeons to ensure that when the neck of femur patient came in they would get a better and consistent quality of care that affords better long term prospects bringing the wait times down from 69 hours to 29, much closer to the national target of 24, thereby reducing mortality in this patient group.

Similarly in the PAAC event, one of the outcomes was to agree certain standards around the use of pre-operative assessment. Before the RIE it was established that just 1000 out of 4000 patients were sent to PAAC by clinicians for a pre-operative assessment leading to a number of cancelled operations on the day surgery unit because patients were found to be unfit for surgery on the day.

> *"What came out of Kaizen was that everybody should be told that anybody listed for a surgical procedure will have to go through PAAC, if they don't then they are not classified as fit"* (Support worker)

v. Challenging the steps

The radiology project was recollected by the Director of Finance as reducing waiting rooms from three down to one. Respondents who had participated in this project described it as 'brilliant' where the outcome was to change the way people wait giving rise to benefits for patient flow, patient service quality, and staff morale. Furthermore less waiting meant much needed space could be reallocated from Radiology to the Trauma clinic. These changes came about by staff challenging the necessity of the process steps to reduce batching, waiting and improve patient flow:

> *"When we looked at what the patients were doing (I remember the steps quite vividly really) we thought well 'can they not walk round by themselves?'"* (Lean Leader)

The impact of successfully challenging this step and making a change led to improved service quality and greater staff morale:

> *"Less people in our waiting room so the receptionist is less grumpy, more welcoming"* (Lean Leader)

> *"The change was not only in waiting time, they changed the way that they allocated the work because patients brought the form round, they could be greeted round there"* (Lean Leader)

The patient forms themselves presented an error prone scheduling arrangement:

> *"forms went into the box, they didn't go in a particularly great order so a person waiting the longest in the waiting room might have ended up waiting the longest the other side" (Lean Leader)*

Further evidence of challenging the process steps led to the unblocking of theatres where operations were unable to go ahead because patients were not being moved from recovery room onto the wards. Investigation into the root cause of this blockage revealed *'all sorts of silly little reasons why patients were not being collected from recovery'* (Lean Leader) leading to agreements as to what was a viable reason for not collecting patients and what was not.

6.3.4.2 Sustaining improvements

The sustainability of Lean was evident in the Trust where projects were known to be successful at time of implementation. For example, where waiting times were reduced by 70% two years ago the department was reportedly 'still very invigorated'. When pressed as to the magnitude of the changes being made many were reported to be small but there were a few bigger changes as well. Ultimately though, the reduction in waiting time by 70% was the result of a *'really really small change'* (Lean Leader).

6.3.5 Complexities of Lean implementation

6.3.5.1 Engagement of middle managers and medical consultants

When asked about problems and issues experienced during RIEs and in relation to implementing the changes the majority of respondents identified difficulties engaging with middle managers and senior medical consultants. The autonomous nature of a consultant's role was perceived by some to be in conflict with the Lean approach.

> *"they have a right in terms of their medical practice, their choice of the best way of treating patients…they won't challenge each other unless they are putting patient care at risk"* (Associate Director of Finance and Operations)

With regards to middle managers, respondents were of the opinion that Lean posed a threat to middle managers who *"should be doing it anyway"* (Lean Leader). Management support was thought to be critical for the front line staff, providing the necessary support for them to make the changes. Some suggest that the process of empowering junior staff and the presence of senior consultants leave managers feeling 'twitched'.

From a manager's perspective they felt they were managing a number of projects and objectives:

> *"when you have got a lot of ideas floating around in the room you're always thinking how will that affect that … is that going to be manageable, is it going to have a ripple effect is it going to affect something else, is it going to be good, is it going to be bad and before you've completed your thinking you're moving onto the next one"* (Outpatients Administration & Performance Manager)

> *"You give up your whole week which is difficult and by the end of it you are worn out and your mailbox is completely full, piles of work on your desk; you get on with your day job and try to get your head above water. By which time the project drifts to the back of your mind."* (Hospital Manager)

"one of the issues at the moment is the volume of these projects going through, some of the middle grades of staff are being pulled in several different directions at once" (General Manager)

Overall, the situation reported by the IMPaCT team was that the middle managers were proving the most difficult to engage. There was no evidence in our interviews that managers lacked engagement with Lean rather they mostly viewed it at an operational level.

6.3.5.2 Key people leading change

Having the right people in the room, with the right influence, the right personality and a good balance between frontline staff and senior consultants without being too top heavy was an ongoing challenge for the IMPaCT team; this problem was particularly notable on a Theatres improvement event. Theatre facilities are used by all surgeons, and this mix of professionally autonomous practitioners presented a real difficulty in terms of reaching a consensus, again emphasising the need to have key people, i.e. those with skills of negotiation and influence in the room.

"Even though we had the right titles in the room we didn't have the people with the best/most influence" (Lean Leader)

"a lot of it is down to personality…in theatres it was less successful there was a large group and many personalities, they had to escalate up to the execs because they just weren't getting buy-in" (Lean Leader)

"They've all got different ways of working and want to use it differently…you will not get all consultants together to reach a consensus and the result is conflict in the face of change, emails flying about 'who's done that, I'm not having it' etc." (Hospital Manager)

In another example the implementation of a successful change was seen to 'slip' in the absence of key 'champions'. In this example the person perceived to be the 'champion' of this work was on maternity leave. The team waited for this person to return before they revisited the problem.

From a different perspective, ophthalmology presents an example where staff motivation to instigate changes evaporated when the Trust commissioned external consultants to review the process. The external consultants produced a report that largely mirrored that of the internal investigation:

> *"Ophthalmology identified what we thought were the major issues and internally wrote the action plan and internally managed that process as far as we could. It ground to a halt at Christmas as the Moorfield report* [a specialist eye ophthalmologic hospital]*was then implemented and people lost motivation…that report pretty much duplicated what we were already doing"* (General Manager).

6.3.5.3 Financial Tensions

There was some mention of the need to cut costs or release savings in relation to Lean implementation which presents a certain tension at a management level. Ultimately, while qualitative benefits were acknowledged as important, the need to illustrate value for money was ever present and contentious. The perception that qualitative benefits were acceptable teetered against a view from the COO: *"I need to see the numbers on the page"*.

> *"At the end of the day it's going to come back to money even though we shouldn't give this message out because we are not empowering people if we do"* (Productivity Manager)

> *"There is still tension, we still need to save a lot of money…it's not an easy jigsaw"* (Director of Finance)

6.3.5.4 Accountability, monitoring and metrics

Related to finance are accountability, monitoring and metrics. Many of the benefits related to making changes are thought to be qualitative and difficult to quantify. For example, the Head of Productivity Improvement describes how a consultant who began an RIE saying *"this is all a load of rubbish there's no point in mapping the process this is the solution and that's what we need to do"* by the middle of the week this consultants mindset had changed dramatically saying *"this is great I never understood before, I only ever saw my bit of it."* The challenge as stated by the Head of Productivity is: *'How do you put a value on that?'*

Data collection, metrics and monitoring was considered a poor and unresolved problem within the Trust making quantification of benefits over time in a data led and graphical format very difficult. At time of interview, metrics still needed to be selected.

> *"We're not over the hump of nailing down the metrics"* (Productivity manager)

Metrics are identified as critical for a number of reasons. Appropriate metrics provide evidence based benefits to engage consultants and other staff who are not initially bought in to Lean giving rise to a high *"quality of engagement"* (Head of Productivity Improvement). Such metrics validate the success of the activity and are useful for reporting at board level, thereby securing the ongoing commitment of the Trust to Lean implementation. Furthermore, data provides a means of communicating results to the people who have made the changes as well as to the wider Trust and monitoring their continued implementation.

> *"If data doesn't get fed back to you how do you know how things are going?"* (Anaesthetist)

Much of the consensus throughout the Trust was the need for better baseline metrics and better communication of such metrics. The ability to quantify and communicate the benefit of a change in a simple and appropriate format was perceived to have a powerful impact on staff morale.

> *"Just an email of the figures would be quite good, or a graph. There was a point when we were getting emails: length of stay and time to theatre, we were able to say: this is still standing up and looking good"* (Anaesthetist)

There was widespread recognition for the need to monitor improvements. Those participating in recent RIEs were aware of action plans that had been drawn up and presented to the board. Weekly meetings took place among IMPaCT team members and monthly board meetings took place at an executive level.

Despite the widespread view that the Trust was struggling with implementing suitable metrics, metrics were actually in place, but staff perceived the metrics to be too complex. One respondent describes the list as 'huge' and thus difficult to recall. Many believed that activity was being monitored and measured, but then conceded that they did not know what or how.

> *"Our connection with the general performance management framework, how really best to show the indicators per project, per work stream, it's not clear in my mind"* (Productivity Manager)

One person's view of measuring outputs was to focus on a few key metrics stating that taking 10 or 20 indicators per project to the board will have less visible and practical impact than a few key ones. Throwing light on what the metrics were, the COO described a benefits programme with 17 streams consisting of three parts: a productivity matrix, a quality matrix and case releasing matrix which incorporated a time releasing element suitable for improvements that could not easily be quantified as a cash release or saving. This benefits programme was delivered on a weekly basis to the COO, where it was read, discussed with the Head of Productivity Improvement and external consultants and then it was shredded. This continuous monitoring of activity was keenly felt by some:

> *"Tim [Chief Operating Officer] is very keen on who is struggling and who isn't, and do we need to move round any targets? I dread those emails every week"* (Manager)

6.3.5.5 Mixed approaches to improvement

At time of interview there were at least three separate change teams in the Trust: IMPaCT, an internal change team implementing Lean; QFI, a consulting company implementing theory of constraints, and Meridian a consulting company implementing Work study. A number of respondents reported that they had found the internal change team (IMPaCT) to be an important stabilising resource to sustain Lean in the Trust. However, the outcome of the multiple change teams in the Trust and the ensuing mixed methods approach was confusion around the Trust's strategy. Some respondents, not limited to the IMPaCT team understood the Trust to be working towards becoming a Lean organisation while some members of the Executive team were taking a mixed methods approach. The existing difficulty at the time of interview was that a lack of clear strategic direction was causing some friction, frustration and feelings of vulnerability, witnessed in particular in the internal change team.

6.3.6 Summary of case study findings (UHCW)

This section briefly summarises the case study findings related to UHCW under the headings context, process, content and complexities.

Context

The drivers of Lean implementation are identified as a combination of:

i. Performance targets and Finance
ii. Quality

Process

The case study supports document analysis findings: UHCW were implementing Lean via a 'programme' approach. An internal change team had been created on a fixed term basis of employment and some Lean training was provided by an external consultant company. Training and education focused around project facilitation rather than Lean principles per se. The process dimension of Lean implementation at UHCW is summarised as comprising of:

i. Programme approach (structured)
ii. Internal change team (formal)
iii. Some training, mainly in project facilitation.

Content

The impact of Lean implementation was evidenced at a local level and summarised as:

i. Simple changes
ii. Focus on patient value
iii. Learning to see (understanding the process)
iv. Challenging steps (empowerment)

Complexities

Complexities of Lean implementation at UHCW are summarised as:

i. Engagement of middle managers and medical consultants
ii. Key people leading change (getting people with influence to lead change)
iii. Financial tensions
iv. Accountability and measurement (existing approach is too complicated)
v. Mixed approaches to improvement.

6.4 East Lancashire Hospitals NHS Trust (ELHT)

6.4.1 Background and Overview of Lean implementation in the Trust

ELHT was selected for case study as the Annual Report relating to 2007-08 cites a rollout of Lean methodology to specific areas of the Trust consistent with a 'programme' approach to Lean implementation (see Volume II, case 36). The Trust also shares similarities of size, performance issues and managerial flux with case study one, UHCW. Like UHCW, ELHT is classified as a large Trust employing around 7000 staff serving a local population of over half a million people across East Lancashire and the surrounding area. The Trust is comprised of four hospital sites with two main sites at Blackburn and Burnley. Also like UHCW, the Trust has also financed a new build hospital using PFI in 2006.

Lean implementation reportedly began in the Trust in 2007. The acting Chief Executive at the time was Gary Graham who was succeeded by Marie Burnham in July 2008. External consultants Applied Angle worked with the Trust during 2007-08 to implement Lean however there is little documentation of what projects took place, how and why they were selected and what the outcome was. Approximately 18 Lean projects have been subsequently identified by the Director of Business Improvement.

During the preliminary meeting it emerged that Lean has stalled throughout the Trust. Applied Angle left the Trust sometime towards the end of 2008, the same time as Mel Waters, who was widely credited as a key person leading and driving Lean in the Trust. Furthermore, the Head of Improvement who had *'absorbed the Lean role'* handed in his resignation at the time of the case study (after just 4 months at the Trust). At the time of interviews there remained just one employee with an improvement role in the Trust, whose remit was *'around the Cash Improvement Programme'* (Director of Business Improvement).

6.4.1.1 Interviews

Twelve face to face interviews took place in total with a cross section of staff in the Trust during June 2009. Table 6.3 lists the various roles of respondents. The researcher was unable to secure an interview with any of the Trust's executive team and shortly following the interviews Marie Burnham left the Trust to head up the National Response to the threat of Swine Flu leading to the instatement of an interim Chief Executive.

Table 6.3: List of respondent job titles

Job Title
Director of Business Improvement
Dietetic Team Manager
Consultant Obstetrics and Gynae
Head of Information
Head of Facilities
Consultant Orthopaedic Surgeon
Consultant Anaesthetist
Learning and Development manager
Receptionist/Administrator
Theatres Matron
Radiology Services Manager
Business Improvement Manager

6.4.2 The Context of Lean implementation

6.4.2.1 Understanding Lean: 'what is Lean?'

A range of interpretations were proffered ranging from a form of targeted waste reduction activity to be *'applied to processes'* to an end to end view of processes as part of a wider system.

Of the differing perceptions of Lean, Consultant Surgeons shared an opinion that Lean was about *'getting it right first time'* thus taking a quality perspective.

Two respondents of a managerial role saw Lean as something to be applied to the Trust, thus viewed Lean as a 'tool'; both respondents were also closely involved with the more recent 'Demand Management' work conducted with Ernst and Young. This Demand Management approach was also heavily 'tool box' orientated.

> *"It's just looking at processes again and seeing what you can take out that aren't adding value"* (Head of Facilities)

One manager took a view that Lean was about good organisation and discipline, good personal management and good team management. This manager stated a belief that such a mindset was not accessible to all people:

> *"You are never really going to get into the mindsets of all people"* (Receptionist/Administrator)

Three respondents all of whom were departmental managers articulated knowledgeable responses reflecting on their own involvement as trained facilitators of Lean within the Trust alongside a personal endeavour to understand and promote Lean. One respondent felt that 'respect for people' was a critical aspect of Lean in relation to colleagues as well as patients. The three respondents whom indicated a personal interest and passion for Lean took an end to end process view of Lean implementation as opposed to a targeted response to a problem taken by others.

> *"…everything impacts on the department around you. You can't just segregate one department out and do anything separate to it."* (Dietetic Team Manager)

6.4.2.2 Drivers of Lean implementation

i. Performance Targets and Finance

The overriding perception of what drives the Trust by all respondents is unequivocally financial pressure:

> *"Finance, nothing but finance"* (Administrator)

> *"at the minute finance, without question"* (Learning and Development Manager)

> *"In 2007, when we started getting into [Lean] there was just a sense of the walls getting closer"* (Consultant, Obstetrics and Gynae)

The extent of financial pressures upon the management in the Trust was acutely felt:

> *"The Trust is so absorbed around its problems of finance and A&E… We have a finance meeting every Friday, pushing [divisional managers] about financial savings - it's not top of the agenda you should be doing Lean"* (Director of Business Improvement)

One consultant warns of the danger of Lean implementation as a cost-efficiency tool:

> *"A lot of the onus is on finance at the moment, and so changes come through finance, financially imperative which is ok, but sometimes leads to changes that are not the ones you ideally want"*
> (Consultant, Obstetrics and Gynae)

6.4.3 The Process of Lean implementation

6.4.3.1 A Programme approach? (T1)

The inferred approach to Lean implementation based on the annual report for 2007/08 (see Volume II, case 36), was that Lean was initially designed to be implemented as a programme, however the interviews reveal little evidence of any formal planning regarding the process of selecting projects and monitoring projects. The process of Lean described by respondents resembles more of an adhoc approach to Lean implementation which is perhaps better categorised as 'few projects'.

Lean has stalled in the Trust

There was consensus across all interviews that Lean had stalled in the Trust. The Trust was not seen to be supporting Lean at any level despite an *'initial high level of enthusiasm'* (Learning and Development Manager). Some respondents viewed this lack of support with clear disappointment:

> *"[Lean] is different, that is why I was so fired up about it, it was something that could really work"* (Learning and Development Manager)

The view of the Business Improvement manager was that despite the cessation of Lean implementation in the Trust there was still *'a lot of love for Lean.'* The Director of Business Improvement confirmed that productive ward was being used in the Trust, thereby validating the category of PW only in T2 emergent from document analysis.

6.4.3.2 Training in Lean

The majority of respondents who had received training in Lean spoke of a two day event with Applied Angle. Almost all respondents who attended the two day event clearly remembered and remarked upon a Lego based simulation game to simulate the flow of patients through a system; no other aspects of training were mentioned. One respondent even remarked that the Lego was the only useful bit.

> *"One afternoon was really particularly useful, the rest was not…we played with Lego trying to make people see how processes could be leaned. It was a very good example, I loved it, very very clever. The rest of it was just reiterating what I already feel"* (Administrator)

> *"I did enjoy the training, especially the model with the Lego"* (Radiology Services Manager)

> *"The afternoon was a really good exercise with Lego to demonstrate the push and pull theory. It kind of made you think along those lines"* (Dietetics Team Manager)

With the exception of the Lego game, some were quite resentful about the content of the Lean training:

> *"I was quite cynical about the whole sort of Applied Angle approach; this is people making money out of telling us to use common sense"* (Consultant Anaesthetist)

Awareness Sessions were conducted by the Learning and Development Team to inform people across the Trust of the sort of things that were happening and encouraging them to go back to their own areas and look at waste, particularly around housekeeping issues and using 5S. The team found that the message of quality was far more attractive to Nurses than the pursuit of financial savings.

> *"As soon as you talk to nurses in particular about a process to save money it switches them off totally; if you tell them it improves quality of patient care then you will get a different response, how you win hearts and minds. It's not a case of money falls out of doing lean it's about ensuring quality and then the pennies fall out of improving quality"* (Learning and Development Manager)

6.4.4 The Content of Lean implementation

6.4.4.1 Description of Impact and outcomes

The impact of the Lean work as perceived by respondents is described under the following seven sub-headings:

i. Learning to see
ii. Implementing new standards
iii. Improved patient safety
iv. Reduced DNA rates

i. Learning to see

The nature of a Rapid Improvement Event (RIE) is that employees come together from all aspects of the pathway to create a short term multi-skilled team. This aspect of the Lean work was considered to be very beneficial to understanding the whole process from all relevant perspectives rather than that of just one department. Furthermore, the process creates synergies with others across the pathway resulting in benefits that were 'multifactorial':

"we had more dialogue with the emergency department, we set up quite a big group, so we had paramedic involvement, we had emergency department involvement both from nurses and doctors. There was a radiographer there and that's before we've got to the orthopaedic and theatre involvement; so it was good in that you were able to meet these people, put a name to a face. I still see them now, they will be a lot more helpful now because I know them." (Consultant Orthopaedic Surgeon)

"I had never understood how the paramedics dealt with [Neck of Femur patients] but having done the audit where we got a load of data from the paramedics we got a far better understanding of the process really" (Consultant Orthopaedic Surgeon)

ii. Implementing new standards

New standards were implemented to improve stock control, reduce variation and improve patient safety:

Stock control - A number of respondents made reference to the high levels of stock in the Trust. A simple but effective tool associated with Lean and arising from the Lean work is known as the '2-bin' system which appears to have mixed reactions within the Trust with some referring to the 2-bin as very useful and effective in gaining Trust and avoiding the need to 'stockpile' as demonstrated in the two examples described below.

In medical records, one respondent claimed to have *'exploded the myth when you didn't get a case note in clinical area it was medical records fault'*, the Lean work revealed that people had been stockpiling the records in various locations:

"Consultants had notes in their cars, they had them at home, we had a thousand notes in secretaries' offices, and we wondered why we couldn't get case notes!" (Learning and Development Manager)

The consequence of such stockpiling was quantified by the respondent as two people walking seven miles per day to find them. The resultant impact of the event was *"setting clear strict*

boundaries and rules of what should and shouldn't happen within that department" (Learning and Development Manager).

A further example of improving stock control in the Trust was in HSDU (Hospital Sterilisation & Disinfection Unit) following the use of 5S to create more space. The impact upon staff morale was clear:

> *"The girl working in there said afterwards it was absolutely marvellous, she'd wanted to do it for ages but never had the time or felt she had the authority to do that, she felt she had to work in that environment. Changed her working day tremendously"* (Theatres Matron)

***Reduced variation* –** HSDU (which is the sterile supplies unit supplying all the instruments to theatres and maternity), appeared a particularly prolific Lean project. The unit was said to be ideal for Lean because it was a 'production line' (although the respondent as a Lean facilitator was quick to point out that Lean can/should also work on wards). The example of HSDU exemplifies the effect of high levels of variation, an example was given:

> *"We had 26 different types of infusion pumps in this Trust, so every time someone went for an infusion pump you could get a different one. If you think there are 26 different variations and you need to be trained to use them you are likely to come across one you haven't used before and thus your instances for mistakes increases. We got it down to three…"* (Learning and Development Manager)

Another example of realising the impact of variation in the system is proffered in relation to the ambulance crews and Neck-of-Femur patients.

> *"Some patients go through the standard [Neck of Femur] pathway quite well but others didn't, depending on which ambulance crew turned up, whether it was a paramedic or a technical crew… we are talking major governance issues and it did highlight lots of stuff like that."* (Learning and Development Manager)

iii. Improved patient safety

Some of the Lean work was considered to be particularly useful in exposing risk factors and potential patient safety issues. The work in orthopaedics described how they identified; *"5 basic things you would think were first aid, just weren't there"* (Consultant Orthopaedic Surgeon). Other examples are given:

> *"[In pharmacy] we found in the region of 60% or it might be 70% of prescriptions going to Pharmacy had no drug intolerance information on it. We had many where the full prescription wasn't filled out so the Pharmacists couldn't dispense because they didn't have all the information."* (Learning and Development Manager)

> *"Auxillary nurses had been trained by midwives to do extended roles…but when I asked them what sort of qualification they had it was all word of mouth training"* (Learning and Development Manager)

> *"We were recruiting consultants from Africa and they did the usual medical checks…did any of them get HIV checks? No. That was a major risk so that had to be rectified."* (Learning and Development Manager)

iv. Reduced DNA rates

One respondent explained that DNA rates (patients who Did Not Attend) were lowered by changing the existing book-in system for ultrasound from a postal based system where a letter would be sent second class to the patient four weeks before they were going to x-ray the patient. The delays present in such a system comprised of 4-5 days for letter to arrive with patient, up to 10 days for a response from the patient. Upon recognising these time gaps the new system tried to book such appointments face to face ensuring an immediate response and a mutually agreeable time and date.

6.4.5 Complexities of Lean implementation

6.4.5.1 Engagement of middle managers and medical consultants

When pressed about why the enthusiasm of the Trust had faded one respondent blamed a lack of preparation and strategic direction on behalf of the Trust.

> *"The facilitators were prepared very well, worked with the consultancy who did ok but when it came to getting people involved in it there was a lack of strategic direction in that area and it wasn't championed by the Trust Board"* (Learning and Development Manager)

At the time of case study, the *'remit of Lean'* was still present within the Trust but it seemed to be passed from one person's to-do list to another. The Director of Improvement made a passive statement about having 'absorbed the role of Lean' following the departure of a member of staff who's remit was Lean, thereby demonstrating an inherent lack of commitment on the behalf of the Director of Improvement. The difficulty of continuing Lean implementation in the Trust was expressed in relation to the lack of resources in the Trust:

> *"There wasn't a budget for it specifically because before it had been picked up by non-recurrent funds…the difficulty often is the costs associated with it, we have a block on anything. Its only one little bit of my remit, we haven't got a dedicated person to lead it so I absorbed the role"* (Director of Business Improvement)

Some respondents perceived consultants as being particularly strong resistors to change owing to the autonomous nature of their work:

> *"Autonomy is quite destructive to Lean,"* (Learning and Development Manager).

> *"Controlling the consultants to work in a programmed way is not easy to do. Some mavericks around now and again,"* (Learning and Development Manager).

One respondent offered some defence of consultants who were resistant to Lean: *"people get very nervous about 'have we got enough?'.* The respondent (a consultant) provided his own

example of an occasion where Lean had led to a reduction in the number of scalpels in theatre to two compromising patient safety:

> *"I wasn't involved in the theatres ones at all but they leaned the processes in theatre procurement and it went to such an extent that I was anaesthetising a patient and we needed a particular piece of equipment and used one and it failed and I needed another, and you're not allowed to have 2 on the trolley as that is lean, the patients oxygen levels were dropping and dropping and dropping - I'm thinking I need the kit, why isn't it on the trolley? That is an extreme example but it did happen"* (Consultant Anaesthetist)

6.4.5.2 Financial tensions

Speculating about why Lean had stalled one Consultant implies that Lean was perceived to have failed to deliver expected financial savings:

> *"Scepticism that it's not worked; prior to that it was the Holy Grail - it was going to save us all this money"* (Consultant Orthopaedic Surgeon)

This view was supported by the Director of Improvement who blamed financial pressures of the Trust and the role of Lean to *"meet the Trust's financial gap."* When asked about what drives the Trust's activities the answer from all respondents was 'finance.' Paradoxically, a number of consultants, nurses and Lean facilitators stated that they personally were drawn to Lean because Lean was not aimed at cost cutting directly, rather it was aimed at improving the quality of care; the cash savings would drop out of improved quality of patient care and not out of Lean.

> *"Part of the thing about Lean that I found attractive was that it wasn't about cost cutting directly, it's about improving quality and getting your cost savings by doing it better. That was always a bit more appealing than some of the financial things."* (Consultant Orthopaedic Surgeon)

6.4.5.3 Culture of the Trust

A number of references were made to the culture of the Trust in particular relating to the merger of two sites: Blackburn and Burnley, which began in 2003. This is perceived to have created a culture of 'us and them' within the Trust.

> *"We've got the problem of having two very distinct organisations that we are attempting to knit together and although we have been one Trust since 2003, we are still not doing things the same way… There's this I don't want to adopt their way of thinking, we prefer the way it's done at the moment."* (Radiology Services Manager)

Upon the merging of the two sites to Blackburn the nature of the sites changed to one that was 'hot' and one that was 'cold'. Blackburn was the 'hot' site which meant that all emergency work was routed there whilst Burnley became a site for daycare surgery and other elective work. This reconfiguration of services was thought to have placed the Trust under significant pressure resulting in a perceived 'crisis' over the past 18 months.

> *"We haven't got the capacity over at Blackburn to take on the emergency work of a population of half a million, so that project created an enormous amount of pressure on this hospital"* (Learning and Development Manager).

> *"It's reactive. There is a blame culture here…up to Christmas the Trust was broadly on track with finance and A&E targets…I struggle to understand how it went from 97% down to be running at 87%"* (Director of Business Improvement).

6.4.5.4 Accountability, Monitoring and Metrics

From a more general and interpretative viewpoint a key problem for the Trust was a lack of monitoring of projects and their outcomes and an absence of metrics to quantify and communicate the issues highlighted, the changes made, and the benefits of such. There are clear indications that no-one really knew what had been achieved through the Lean work.

"I couldn't tell what the financial savings have been or what the quality differences have been but I am sure that somebody, maybe Clive, may well know" (Dietetics Team Manager).

Unfortunately, despite a concerted effort to decipher what Lean projects had taken place in the Trust and the outcomes of such work, when asked to recall the impact of the individual projects Clive failed to articulate the benefits coherently:

"There were one or two things that have been done and I struggle to recall what they were…there was one or two where there was real positive benefits, not gigantic benefits but definitely an improvement" (Director of Business Improvement).

The need to implement measures had been recognised by respondents:

"You have to work out what your measures of success are going to be. We didn't do that with Applied Angle, we didn't say right 'what is our mark of success in the emergency department process in terms of fluids, what's it going to be in terms of theatre" (Consultant Anaesthetist).

One manager spoke of the difficulty in selecting appropriate measures:

"I find it the hardest part…knowing what you want to measure at the beginning. I am very good at measuring something and then finding out its telling me nothing" (Radiology Services Manager).

In summary, the consequence of a lack of monitoring and measurement resulted in scepticism by some that Lean hasn't worked and disappointment from others who felt that it had.

6.4.5.5 Mixed approaches to improvement

Some respondents cited their frustration when a project was underway but was then suddenly taken over by other external consultants Ernst and Young focusing on demand management and duplicating some of the existing Lean projects creating confusion and frustration. One such situation is captured below:

> *"They were looking at theatres, we were looking at theatres…it started getting confusing. Ernst and Young had a clear remit in terms of what the Trust was expecting from them which was very financially driven as they were expensive and the Trust wanted a return on that."* (Director of Business Improvement)

This conviction was supported by another respondent: *"Ernst and Young had a lot of pound signs attached to it. There is a big expectation that if you get in consultancy companies there needs to be a value put on that"* (Business Improvement Manager).

6.4.6 Summary of case study findings (ELHT)

This section briefly summarises the case study findings related to ELHT under the headings context, process, content and complexities.

Context

The sole driver of lean implementation at ELHT was identified as:

i. Performance targets and Finance

Process

The case study offers some support for the conjecture of document analysis findings that ELHT was implementing Lean via a 'programme' approach during T1 as a number of projects could be identified by respondents. It was clear that what may have been touted as a programme approach in the Trust's annual report of 2007/08 materialised as a series of projects that did not appear to be structured or linked in the same way as evidenced at UHCW. At the time of the case study, Lean had since stalled in the Trust.

An internal change team was created but this was much less formal than the IMPaCT team of UHCW. Two days of Lean training was provided by an external consultant company. The process dimension of Lean implementation at ELHT is summarised as comprising of

i. Programme (unstructured)
ii. Internal change team (informal)
iii. 2 days of training

Content

The impact of Lean implementation is evidenced at a local level and summarised as:

i. Learning to see (understanding the process)
ii. Implementing new standards
iii. People talking about Lean (engagement)
iv. Reduced DNA rates

Complexities

Complexities of Lean implementation at ELHT are summarised as:

i. Engagement of middle managers and medical consultants
ii. Financial tensions
iii. Accountability and measurement (existing approach is absent)
iv. Mixed approaches to improvement.

6.5 Royal Bolton NHS Foundation Trust (RBH)

6.5.1 Background and Overview of Lean implementation in the Trust

Royal Bolton Hospital NHS Foundation Trust (RBH) is a medium sized hospital Trust with a catchment area of 263,000 and approximately 3600 staff. RBH was selected as an exemplar case study on the basis that Lean implementation at the Trust has been highlighted and documented in both academic and practitioner literature (see Fillingham, 2007; 2008; Gubb, 2009). Lean implementation at RBH began in 2004, led by the Trust's new Chief Executive David Fillingham. RBH is also considered the first hospital Trust in the UK to implement Lean across the whole organisation. Document analysis identifies the Trust as employing a systemic approach to Lean during T1 and T2 (See Volume II, case 40). The Trust's website also describes the implementation of Lean at RBH as part of the Bolton Improving Care System (BICS). This case study adds to the existing knowledge about Lean implementation by capturing the experience of Lean implementation through the eyes of the executives, facilitators, management and clinical staff. The case study is able to convey a rich and detailed analysis due to the ability of the researcher to observe Lean throughout the Trust, i.e. in labs, on the wards, in corridors and through participant observation of an RIE. The implementation of Lean at RBH is significantly more extensive than the other cases studied affording the researcher more experiences of Lean to draw upon, hence description and analysis of Lean in RBH appears more detailed than the description and analysis of the other three case study Trusts.

6.5.1.1 Interviews

Ten interviews took place during February 2010 with a cross section of staff in the Trust from the Chief Executive and Director of Service Improvement through to a theatre's assistant and a ward clerk (see table 6.4 for list of interviewee roles). In addition, the researcher was also fortunate enough to observe and participate in a Rapid Improvement Event week during February 2009 in the role of 'fresh eyes'. The role of 'fresh eyes' requires an independent perspective on the process if and where appropriate. Often this role is undertaken by a patient representative or member of staff working in a different area of the Trust.

Table 6.4: List of respondent job titles

Job Title
Chief Executive Officer
Director Service Development
Head of Lean Transformation
Senior BICS Facilitator
Nurse Practitioner/ Improvement lead
Assistant Practitioner Stroke Therapies
Blood Sciences Laboratory Manager
Medical Illustration Manager
Theatre System Administrator
Ward Clerk

6.5.2 The Context of Lean implementation

6.5.2.1 Understanding Lean: 'what is Lean?'

For the Chief Executive of the Trust, the response was very concise:

> *"Lean is a systematic approach to system improvement…it is about how you integrate tools and techniques with a management system with leadership behaviours to create a culture for improvement and that's what I mean by it".*

The Head of Lean responded even more concisely: *"it's the continual pursuit of perfection".*

The Director of Service Improvement provided a more elaborate description, ultimately describing Lean as something very philosophical, a 'chemistry' between culture and daily problem solving:

> *"It's a state of mind, it's a philosophy, I think it's a strategy and all of these things, are all embracing descriptions of an organisation and nested within that are all sorts of problem solving methods that are, you know, based on the TPS and the values of Toyota and the way they go about things which are absolutely hard edged and*

indispensable but do not stand on their own. It's that chemistry between the two, you know the bigger philosophy, cultural, genuinely a sort of transformational vision and day to day problem solving."

Describing her perception of how others in the Trust perceive Lean, the Head of Lean acknowledged that a small proportion might view it as *"a problem solving approach on the road to perfection"*, while the majority are more likely to view Lean as an improvement method of tool. This perception is supported in the responses of others, for example, one respondent describes Lean as being about *"getting rid of the crap"* (Theatres Assistant).

6.5.2.2 Drivers of Lean implementation

The following themes emerge as reasons why the Trust is implementing lean:

i. A better experience for staff and patients (Quality)

ii. A new Chief Executive with an interest in Lean and innovation in healthcare

iii. Performance 'fires'

i. A better experience for staff and patients (Quality)

A general theme of 'making it better' for patients and staff was the most commonly cited perception of why RBH is implementing Lean. There was some recognition of the financial side of things but this did not appear to be considered as a key driver by any of the respondents. The following quote was from a nurse practitioner whose involvement and training in Lean led to a re-stratification of her role to 50% improvement facilitator and 50% nurse practitioner. Commenting on waste, a note of pride and ownership is detectable as the respondent was keen to point out that waste was not common place in her department!

> *"We make it better for the patient, that's the whole idea, make it better for the patients and make it cost effective…there's a lot of money wasted especially (not in ophthalmology) but in general, you see patients in beds, length of stay is quite long and we need to improve that so there is a financial gain as well as a patient satisfaction gain."* (Nurse practitioner and Improvement Facilitator)

Another respondent who was involved in a Lean event in medical illustrations explained her perception of Lean as a 'belief system' where the focus is upon creating a better experience for patients and staff rather than towards figures and targets. The following statement echoes the view of respondents at UHCW and ELHT where an affinity with Lean is attributed to the fact that it is not about saving money but about improving the delivery of care to patients and the working environment of staff.

> *"That's one thing I like about it [Lean] that it's not just geared towards figures and hitting targets, it's actually a genuine belief system by those that put it in motion and it does help us create a better working atmosphere; the end result is happier staff and the patient leaves with a better experience most of the time."* (Medical Illustrations manager)

Only two respondents at RBH failed to perceive the Trust's reason for implementing Lean as one of improving the patient's experience. The following quotes are from interviews with lower grade support staff.

> *"I think they're after everything working the same way and the same paperwork. They are working towards standardising"* (Ward Clerk)

Another respondent felt that Lean was primarily about making financial savings through slicker processes and this seemed to have been influenced by heresy relating to how much the department she worked in needed to save:

> *Theatre System Administrator:* that's the impression I get from the BICS events, to be efficient and more cost effective, save money, be slick.
>
> *Researcher:* is that message coming just through the events or in other ways?

Theatre System Administrator: it's coming through in other ways as well. We've got to save £10million in the next 12 months. You've got to, it comes through everywhere.

Generally, the interviews suggested that more senior staff prefer to emphasise a more evangelical role of Lean as making it better whilst lower grade staff (who did not have responsibility for clinical care), take a more pragmatic view. It may be that lower grade staff felt that they had less influence over service quality and thus saw their own role in more routine and pragmatic terms.

However, the Head of Lean made it clear that an increasingly financial focus is inevitable:

"we have to focus more on financial improvement, we will have no choice so that creates a new challenge for us, it's not where we have got the most evidence base…" (Head of Lean)

ii. A new Chief Executive with an 'interest' in Lean

The Trust began to explore the potential for Lean implementation with the arrival of a new Chief Executive (CE), David Fillingham. David was previously Chief Executive of the Modernisation Agency, formed by the Department of Health in 2001 with the aim of developing and testing new ideas in the NHS and then influencing the spread and speed of adoption of these new ideas. As Chief Executive, David brought to the Trust an interest in these ideas and connections with organisations that have experimented with them. Through interviews, it was clear that the Chief Executive was highly regarded in the Trust particularly with a view to his pioneering role in Lean implementation. Commenting on his leadership, the Head of Lean remarked:

"It's rare that David doesn't come up with ideas first as he is a super innovator" (Head of Lean)

Describing the participation of the CE at an improvement event, one respondent portrayed him as a 'pioneer':

"We were really lucky to have him on the team. At first it was a bit intimidating because he's like the pioneer in our hospital but he had some really good views on what we could do which was great and he was very passionate. For such a little department to have someone like him come and work with us was really good." (RE, Medical Illustrations manager)

The above quote is a clear illustration of the commitment of the Chief Executive to Lean implementation and the impact this has. Asked about his personal commitment to Lean implementation the CE replied:

"I try to do every induction, I don't quite make everyone but BICS is on the key induction slide whether I'm doing it or another director's doing it and we spend quite a lot of time talking about BICS talking about our philosophy of improvement at induction."

iii. Performance Fires

At the time of David Fillingham's arrival at RBH the hospital was facing some performance issues, particularly in relation to the hospital standardised mortality ratio (HSMR[16]). In 2005 the Trust's HSMR rate as calculated by Dr Foster was 125.6 which means there was 25.6% more deaths in the Trust than would be expected. In the beginning it was the nature and location of the most pressing performance fires that determined the initial Lean projects.

"the first value stream was the fracture neck of femur pathway and that was because we had really inexplicable excess mortality in that pathway. So it was the obvious one to choose." (Director of Improvement)

"we knew our mortality rate was higher than it should be, our reference costs were higher than they should be, and staff satisfaction surveys showed that our staff were in the bottom 25% of actually feeling happy working in this Trust. We had waiting times you know 18 weeks to hit and that's why we got into improvement work and its

[16] The Hospital Standardised Mortality Ratio (HSMR) is an indicator of healthcare quality that measures whether the death rate at a hospital is higher or lower than you would expect (Source: http://www.drfosterhealth.co.uk/features/what-are-hospital-standard-mortality-ratios.aspx accessed 18/2/12)

probably why most hospitals in the country go into improvement work." (Improvement Facilitator)

6.5.3 The Process of Lean implementation

6.5.3.1 A Systemic Approach

The view of the Chief Executive was unequivocal, suggesting that Lean was: 'the way we do things around here':

> *"I'd like to think that it [Lean] is now the lens through which we run the hospital. I can't think of a day when I'm not dealing with issues, when I'm not thinking about it in lean terms; whether that's the challenges we've got of hitting the A&E target or money we need to save or mortality rates you're automatically thinking "how can the BICS way help me with this?"* (Chief Executive)

6.3.5.2 The implementation journey

Given the background of Lean implementation at RBH, the researcher sought to elicit details relating to the process of developing Lean in the Trust since 2004. The process is portrayed as a journey with two key phases, the first consisting of learning about Lean and proof of concept and a second phase which is about the development of a system for improvement.

Phase One: Learning

The interviews portrayed a journey towards a systemic approach at RBH that began with 'learning by doing' involving senior directors and management. Two initial projects were selected, one based on a critical need to improve, namely the fracture neck of femur pathway where mortality rates were said to be 'inexplicably high' and a 'simple' daycare pathway was chosen for contrast. The projects had an immediate impact:

> *"No-one expected to be drawn in as quickly as we were, no-one expected to see the potential quite so quickly, so when we started it really was a proof of concept...within a matter of months, mortality rates were falling"* (Director of Service Improvement)

The daycare project was less successful, but still provided important learning, particularly around the importance of preparation for the event and making sure that the right people are in attendance.

> *"It was an interesting contrast in two ways really, not only were they completely different processes but we completely got it wrong on day care, we didn't prepare well enough, it was really instructive, we didn't prepare well enough, we didn't deal with the human relations issues as well as we should have done because you know, the day care unit gets occupied by different surgeons on different days so every debate we did have we had to have the next day"* (Director of Service Improvement)

Despite the difficulties of the daycare project, improvements were being evidenced and thus Lean was increasingly seen as something that could work, stimulating further small projects across the next 12 – 18 months. The Chief Executive, Director of Service improvement, Head of Lean and Improvement facilitator all reflected on this time as a learning period, 'learning by doing' and learning from others. This learning period led the senior executives to a consensus that a system was needed to drive improvements in the Trust, and that the system was to be underpinned by Lean principles.

The Head of Lean asserted that the initial 'few projects' approach was important from two perspectives: firstly as previously discussed it was about proof of concept, seeing if it really works; secondly it was also a test of managerial and clinical engagement.

Learning from other companies who were implementing Lean across their organisation was considered a key source of inspiration and learning at RBH. Chief Executive David Fillingham claims that it was the Chief Executive at Thedacare in the US who convinced him that Lean could work in healthcare. The following excerpt illustrates networking among the communities of Chief Executives at Trusts in America and Australia, where Lean implementation is regarded as being advanced.

> *"I suppose what finally convinced me to use Lean was hearing John Toussant who is the CE at Thedacare speak about their journey and they're about 3-4 years ahead of us so I was looking at their work and one of the early things we did was send a couple*

of teams of people out to Wisconsin, a week each to participate in their event. I haven't visited Virginia mason but we've met with a number of their people on a number of occasions, I know the chief exec Gary Kaplan very well as well, and other linkages too, I mean Flinders hospital in Adelaide..." (Chief Executive)

Both the Chief Executive and the Director of Service Improvement were keen to point out that they deliberately sought after examples of Lean in other industries as well as examples in other healthcare organisations. Staff at RBH visited: Unipart, British Aerospace, Warburtons bakers, and the US airforce at Mildenhall.

Phase Two: Developing a Framework for Improvement: The 'Bolton Improving Care System' (BICS)

Ultimately the Trust recognised that it needed a system or framework for embracing Lean as an improvement methodology that could be aligned to corporate goals and objectives and rolled out across the organisation as opposed to an adhoc approach to service improvement. To this end, following 12-18 months of learning by doing and learning from others, the Executive board took stock and began to make decisions about corporate goals and how to align improvement work to these goals.

"[We] began to coalesce into an agreement that you can't do a bit of everything everywhere, you've got to harness it to your big corporate goals"

The *'how'* of moving from a 'few projects' approach to taking a 'systemic' approach to Lean provided what the Director of Service Improvement describes 'a real tension' and culminated in the establishment of the Bolton Improving Care System (BICS) as a vehicle for communicating the approach to service improvement in the Trust.

"...it is a balance of the narrow and deep, so how do you go from the model line when you want to keep making improvements through a cycle and yet you want to change the whole organisation? You know you're only ever going to touch a small cross

section of people by that experience. But we need to take the whole organisation's understanding with us and that's a real tension" (Director of Service Improvement).

6.3.5.3 Key Features of BICS

The *Bolton Improving Care System* comprises a number of key features:

i. Tools

ii. A rolling cycle of Rapid Improvement Events

iii. Measuring impact

iv. Strategic alignment

i. Tools

Improvement 'tools' were considered an important element of BICS. In describing the journey of lean it was made clear by executive management that 'raiding the lean toolbox' was very much the background of Lean implementation in the Trust. As this approach progressed into a systemic approach, the tools continued to retain an important role in the implementation of Lean through BICS.

> *"BICS is the whole hospital, it's the way we do improvement. At the moment, while we try and embed the principles, it's about teaching the tools about facilitating people through events as people still aren't clear what a rapid improvement event is, what it should look like it's about supporting the team members so that after the event they have got help with sustainment and each week it is about making sure the team uses the tools correctly"* (Improvement Facilitator)

The Chief Executive explained the difference between a toolbox approach and a systemic approach that embraces tools:

> *"it is about how you integrate tools and techniques with a management system with leadership behaviours to create a culture for improvement and that's what I mean by it, you need all three elements in my view, … so there's a lot of people who dabble in the tools and techniques but they never get the benefit because they don't put it in the context of the wider management system or a set of leadership behaviours."*

The patient perspective was also considered an important contributor to service improvement in the Trust; one respondent reflected on the value of inviting patients along for a day: *"you never really know what a patient might think"* (Nurse practitioner & Improvement facilitator)

There was a strong consensus across all interviews about which tools are used in Lean events. Most respondents describe a suite of tools, including the Kano model, Spaghetti diagrams, Fishbone analysis and 5 why analysis, all of which were used during the rapid improvement event that the researcher observed. The Chief Executive was very clear that tools are important and they will use every tool they can to align the philosophy of BICS to the philosophy of lean.

A BICS Improvement Facilitator echoes this logic:

> *Researcher:* So what is BICS' role in bringing about change?
>
> *Facilitator:* I'm always very clear that BICS isn't just a team that sits in an office, they're just the enablers teaching the tools and making sure we are doing things in a lean way. BICS is the whole hospital, it's the way we do improvement.

In summary, the Chief Executive conjectured:

> *"A lot of people, particularly in the NHS are happy to be working at the softer end of it, the leadership end and do not put the rigour of the tools into it and in my experience these things interact."*

The following photo (figure 6.1) illustrates how 5S, visual management and the 'kanban' tool was being used within the blood sciences department at the Trust. The cupboards have had

their doors taken off (to avoid excess motion); coloured tape is used to mark out places where items are kept so that everything is neat and tidy, and clear 'restock now' lines have been marked out as Kanban's to signal when stock needs to be refilled. There were many examples of visual management that were observed in the blood sciences department, for example, clear windowed fridges (so you could see inside without wasting motion and energy opening the door), brightly coloured circles that indicated at a glance whether an incubator machine was working (green circle) or not working (red circle) and if the engineer has been notified (amber circle). 5S was also noted to have been taken very seriously in departments across the Trust and a daily 5S audit tool has been introduced to ensure that 5S was sustained.

Figure 6.1: Visual management and Kanbans

ii. A rolling cycle of Rapid Improvement Events

Rapid Improvement events adhered to a clear structure as confirmed by participant observation and interviews, beginning with 'gap analysis' through to root cause analysis and implementation of proposed solutions.

1. Gap analysis

Prior to an improvement event, a clearly stated 'reason for action' was agreed alongside targets, dates and measureable outputs. This one page document secured a consensus among

key staff around the event objectives and the target state of the process under review. The first day of an improvement event is then spent conducting a 'gap analysis' to consider: why doesn't our target state equal our current state?

> *"To find out the current state we walk the walk, speak with figures, get the real voice of the customer, don't just say "oh this always happens or nobody likes that" so make sure it's appropriate, get the facts, come back it's a full day's work!"* (Improvement Facilitator)

2. Ideal state

Following the mapping of the current state, the improvement facilitator described participants as getting 'stuck' in current state thinking and thus to help them break out of this mindset and start thinking about improvement and change participants were invited to consider their 'ideal' state, i.e. if money was no object.

3. Root cause analysis

Challenging the process steps took place using tools of root cause analysis. Frequently this involved using the fishbone analysis tool (Ishikawa diagram) followed by a 5 why-analysis but other tools were employed where an additional analytical viewpoint was considered beneficial. One facilitator describes her use of tools and techniques:

> *"When I use it, I use the fishbone and then put the problems into a '5 why'. Visual management, particularly when you've done 6S [similar to 5S, but with the addition of 'safety'], and having visual management is really good for the team because even if the team has not been involved in the actual change then they know this is what we've got to do, and this is what it's got to look like. Spaghetti diagrams are very reflective, particularly if you have documentation handoffs for patients and the actual number of times a mistake can be made, until we've actually done it then you just don't know so once you realise then you think right we've got to cut this process down."* (Nurse Practitioner and Improvement Facilitator)

4. Rapid experiments and 'just do it's' (JDI's)

The next step in the improvement event was to start to formulate the 'how' of improvement, deciding actions and dividing them into projects and JDI's. The improvement facilitator emphasised the use of the scientific method in formulating the 'how's'.

> *"It's building up your rapid experiments, what are we going to try this week? What's our hypothesis? If we did this, this would happen, – well let's have a look. And then it's, right we've got some 'just do it's', we've got some projects"* (Improvement Facilitator)

5. Follow-up

The BICS improvement cycle lasted in general for 90 days following the event, measured at 30, 60, and 90 day intervals to ensure the project and actions were on track. This follow-up encouraged participants to continue to look at improving the process after the event week was done.

> *"what is really important after the event is the follow up cycle to make sure that things are right, and are there other things we can do to make it even better? So revisiting things is really important as well, it's not just an event that is done and finished with, you've got to keep the follow up work afterwards."* (Nurse Practitioner and Improvement Facilitator)

The Director of Service Improvement described the role of the 30/60/90 day review cycle as an 'accountability framework':

> *"The 30/60/90 day reviews are picked up by the reporting on the mission control board and that is reviewed by the operational managers at regular intervals. So, if something is on track, or off track, then the reasons for it should be obvious. The tracking measures are there as well to influence people. So, I suppose we are trying to hone that to something that really is an accountability framework for the outputs and sustainment"*

6. Outbrief

Outbrief was about showcasing the improvement work, not just to the executives but to the whole Trust and to the wider health economy. The researcher observed an 'outbrief' session where all of the improvement events that had taken place that month presented their findings to a varied audience which included representatives from a hospital in Sweden, representatives from the Department of Health as well numerous staff from across the Trust who choose to come and listen.

> *"We do 'out brief' once a month which is like this hour sharing what we've done session so that's the spread, share the good news stuff. We also have an active role in making sure things get promoted across the health economy, nationally so case studies and getting team's recognition. We go for a lot of awards because we want them to hear: 'you've done really well so thank you', and that helps to sustain."*
> (Head of Lean)

iii. Measuring Impact

Recognising the importance of collecting data and measuring impact, the Director of Service Improvement attributes the development of this aspect to the recruitment of the 'Head of Lean'.

> *"she's brought a depth of knowledge and expertise in particular areas and she's absolutely grounded in data and I think that's something that maybe before we were a bit hit and miss about how well we use data to evidence the current state and capture the future state but she's absolutely got a grip of that so I think that's really accelerated what we're doing… just the rigour of insisting that it is there, insisting that you've got the base line measure and that you're not in box 1 you're not just working on an anecdote, you know in A3, you've box 1 and box 2, you're actually based it in arithmetic."*

The Director of Service Improvement described the ongoing commitment to the development of data analysis and measurement in the Trust, secured through a further appointment of an information analyst to directly assist the BICS team.

Measuring impact and monitoring performance isn't just of importance at an executive level but also at a practitioner and participant level. Participants and their colleagues invest heavily in these events and thus it was considered important that there was a system to keep the work on track and make improvement work and sustain.

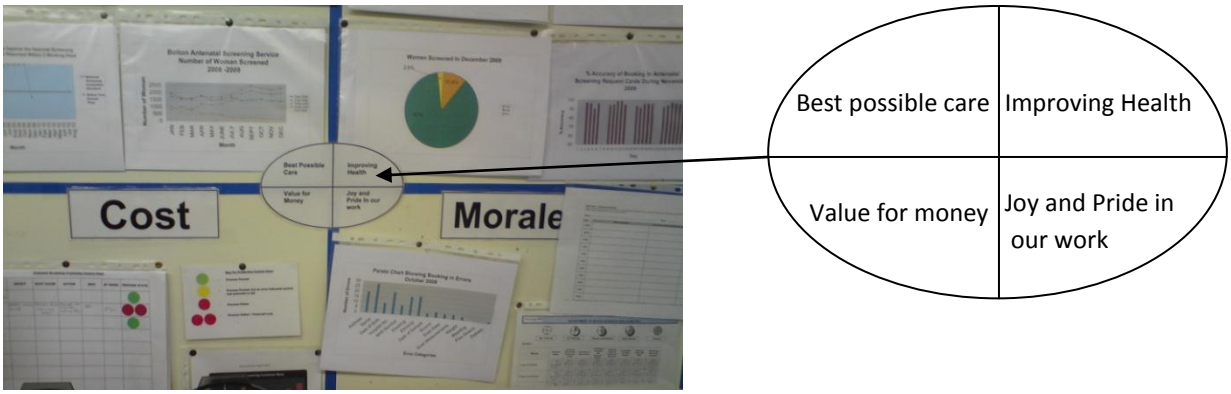
> *"That's one thing that was important to staff, you know what if it all just falls back by the wayside? But because we know there is a review process there you're not just doing a week, implementing it and then nothing, there is a review date and that leads up to about 6 months"* (Assistant Practitioner Stroke Therapies)

iv. Strategic Alignment

The Trust stated at the end of its initial 12-18 months of 'learning by doing' that it wanted a system of improvement that was linked to corporate goals. Four 'True North' goals were established to reflect the Trust's big corporate objectives, of which all activity should be aligned to. The True North's were visible on the walls right across the Trust. Figure 6.2 illustrates a photo of the True North's at the centre of a visual performance wall in one of the Trust's departments. One respondent involved in an improvement event supports the effectiveness of strategic alignment of the Trust's corporate goals with that of their own event:

> *"We were trained to tie it in with what the Trust's ideals are. At the end of the day, peoples job satisfaction prior to the event was really dipping, we were really struggling. So I think we tried to tie our specific event ideal into the Trust ones."* (Assistant Practitioner Stroke Therapies)

Figure 6.2: Photo of True North corporate goals at RBH



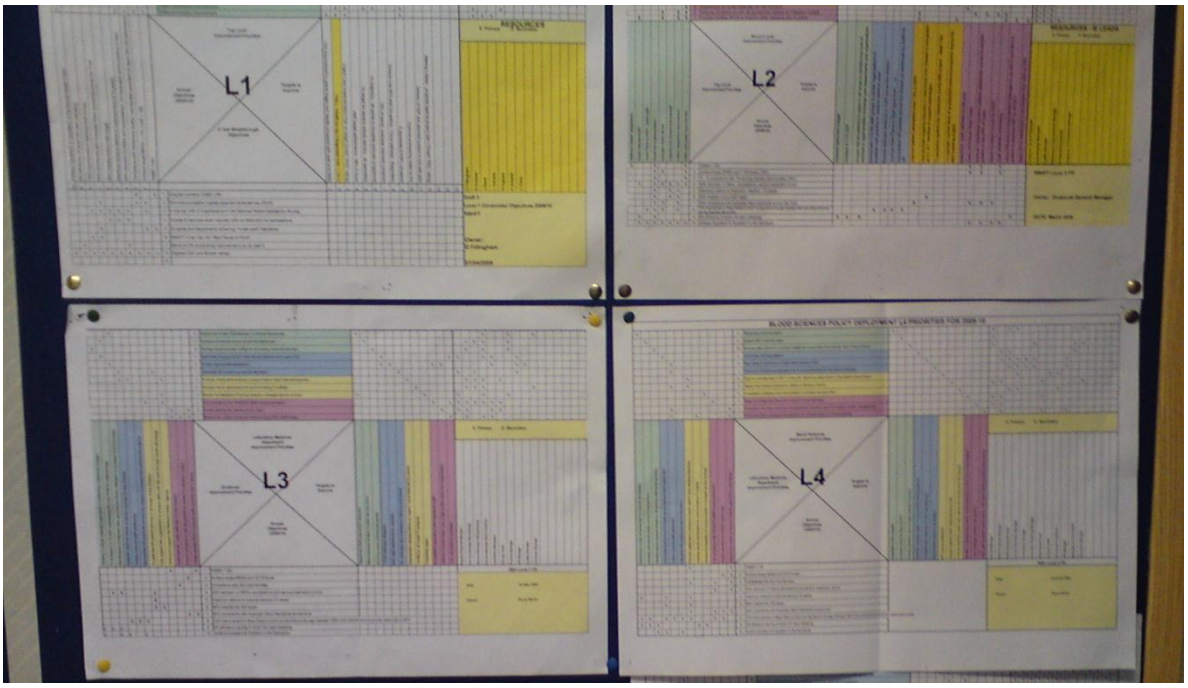
Increasingly the Trust had begun implementing annual cycles of 'policy deployment' in order to move away from the opportunist approach to improvement priorities to a more strategically aligned approach to improvement priorities. The Chief Executive describes how improvement priorities were cascaded throughout the organisation through the Toyota approach known as 'catchball'. 'L1, L2, L3 and L4' were documents that sought to capture the corporate goals and improvement priorities of the Trust and identify/translate the goals and priorities to each layer of the organisation (see figure 6.3). The question raised by the L1, L2 and L3 documents is *"what improvement activity are you going to engage in to deliver those business objectives"* (Chief Executive). A BICS facilitator explains the process:

> *"What happens is we have a level 1 policy which is our Trust board objectives for the coming year which is called our hospital L1. That then is developed into an L2, so the Directors and the Divisions will say based on what is coming down: 'the L1 says we need to reduce the mortality rate to below 100 so what do we have to do to achieve that?' That then goes to level 3 which is departmental level, so they say well how are we going to do that ... and that's really where the direction of the hospital comes from."*

The Chief Executive, Director of Service Improvement and Lean facilitator all describe the rhetoric of policy deployment as a process of catchball, passing ideas back and forth, however, the Head of Lean acknowledges that policy deployment is a complex and difficult tool to get right:

> *"I think policy deployment is very difficult, balancing the external pressures, things you have to do, things that I must do with what you want to do internally and then deciding which things are high priority and which are not .... And I think that's something the organisation is still trying to get right."*

Figure 6.3: Photo of the policy deployment wall



6.5.4 The Content of Lean implementation

6.5.4.1 Description of Impact and outcomes

Respondents identified a range of improvements as a result of improvement activity and Lean implementation in the Trust. Given the duration of Lean in the Trust and the vast number of improvement events that have taken place during this period it is not possible to capture all of the outcomes. Many improvements were based around the concept of visual management and this was observable around the hospital. Below are two examples.

- Communication cells – visible on the walls of many departments that clearly identify the True North goals and how they related to the department. These cells contained performance data and 5S audit scores. Five minute meetings were held at these communication cells every day in the blood sciences department relieving the need for monthly meetings that were previously three hours long.

- Visual communication boards – stroke therapies had developed a visual communication board to help their manager co-ordinate staff across two wards.

The first day of implementation was the first day that all patients were seen that should have been seen. At time of interview the board was still observed to be working well with all patients receiving the appropriate quality of care and no staff were required to work overtime – a vastly different situation to that which prevailed prior to the implementation of the visual communication board. Because of the increased visibility of what had been done, and what was still to be done, a greater level of team working could be achieved and time was no longer wasted trying to ascertain who was working where and what was still needed to be done (the Team Leader had spent approximately two hours per day trying to coordinate staff). One respondent describes how the board has changed the way that she works:

> *"Yes it has changed the way that we work, it's significantly changed it. We had, obviously we work with qualified physios but we also have assistants that work with us both* [both wards], *what we were finding was that it was very difficult in prioritising their work, we were pulling them, to and fro-ing and we never had pairs of hands when we needed them so at least… staff satisfaction I think has been raised a lot."*

The visual management board was created during a rapid improvement event and cost virtually nothing to make. Figures 6.4a and 6.4b present photos of the visual communication board in stroke therapies taken in February 2010.

Figure 6.4a Photo of visual management board to coordinate work in stroke therapies

Figure 6.4b Close up of patient tasks (red magnets = still to do, green = complete)

6.5.4.2 Cultural change

There is evidence that the impact of Lean appears to have reached beyond a localised impact and has advanced to the level of the organisation. One respondent described how Lean was being used daily as part of daily problem solving:

> *"I see in my own work place things that can be improved using lean principles and what has started happening is if I see something and think oh we should improve that, we don't do big events we slowly change things and gradually improve things."* (Nurse practitioner and Improvement Facilitator)

A number of respondents accredited Lean with changing the way they worked every day:

> *"I think for some people it has absolutely connected them and inspired them as leaders and as managers around how they do their job. There are people who are really living and breathing something different everyday because they can see what works if you like."*(Director of Service Improvement)

One respondent claimed that people in the Trust had changed their perceptions about what Lean is and what BICS is, reflecting a move from an 'efficiency' mindset to one that could perhaps be described as 'efficacy'.

> *"What has changed is that in the beginning people really thought it was about money saving but I think we've really been able to demonstrate with time that it is about quality and safety and staff morale and value for money."* (Lean facilitator)

6.5.4.3 Improved organisational performance

The following quotes came from two very senior executives and attest to an improved organisational performance as a consequence of Lean implementation:

> *"All you can say is the results are fantastic in the sense that you can see the turnover going up you can see the length of stay going down, you can see adverse incidents going down absolutely tied to when that [Lean] work started. You can see mortality going down*

on those wards, the graphs are absolutely clear."(Director of Service Improvement)

However, the Chief Executive contended that the organisation was yet to see an improvement to the overall bottom line:

"We've got some fantastic results but they are pockets of improvement we haven't yet seen the overall bottom line of the organisation yet as a result of this work." (Chief Executive)

6.5.5 Complexities of Lean implementation

To quote the Chief Executive of RBH, with regards to implementing Lean there were: *"Loads, and loads, and loads of challenges!"* Complexities are summarised as:

6.5.5.1 Ownership/Permission to change

A Lean facilitator attributed instances where Lean had failed to have the desired impact to a lack of understanding that people have permission to make change themselves.

"I think where it has failed in some areas is down to, (perhaps in the beginning), a lack of ownership. People still expect to be told what to do and I think we're just coming to a stage where people are realising 'no, you do have the permission to make the change yourself" (Facilitator)

Members of the BICS team and the executive board shared a concern that the existence of a central improvement team creates an expectation that change is something that the BICS team will come and do to you, and the Trust is working hard to try and avoid this perception.

"I think a lot of people think it's not their job, its someone up there in the BICS team but I think its slowly getting through to people that it's not just one person, it's everybody's job"

One respondent described the consequence of a reliance on BICS to push change in theatres:

> *"I've never seen anything that was pushed through on a BICS event continue more than a couple of weeks without the BICS team behind them pushing pushing pushing; while pushing, everything worked beautifully, as soon as that push stopped it just went haywire, they just went back to the things they normally do."*

However, the Director of Service Improvement made the point that even some of the more experienced people still need help with improvement working, stating that the nature of the methodology is counter intuitive to some.

> *"Having said that there are an awful lot of people, even when they've had a lot of experience in teams and are fairly well on in the academy, that, they still need considerable support and coaching to be able to take that on in that way, because it is sometimes culturally quite counterintuitive to start to solve problems this way"* (Director of Service Improvement)

On a similar note, the Chief Executive emphasised the importance of a rigorous application of the tools to get benefit. Without this he cautioned, people get fed up and give up.

6.5.5.2 Engagement of middle managers and medical consultants

When pushed to identify challenges and barriers to Lean implementation, the majority of respondents will name medical consultants and middle managers as being the principal blockers to change.

> *"You've got a pocket of staff that are holding onto power and that's the medical staff. So you could take the nursing staff and you could shift that curve along and you could shift the whole curve along however if you still have medical staff in that group they hold a disproportionate amount of power in the hospital and I'm not quite sure as the whole curve moves along what will happen. I don't know whether they will come, I don't know…"* (Lean facilitator)

"it's difficult isn't it because what a lot of clinicians want out of improvement and what managers want out of improvement are quite polar opposites or can be if you're not careful. Not always, but can be." (Head of Lean)

"The more senior the manager, the less time they spend in the BICS event. Usually it's rare that the consultants will come for more than a couple of half days. Some do, some stay, some are interested" (Theatres Assistant)

"They [surgeons] don't want to change: 'I've always operated on a Monday morning and a Friday morning and that's how it's going to stay', even though it would be so much better if they operated all day on a Wednesday. But, you know that's how it's always been." (Theatres Assistant)

6.5.5.3 Accountability, monitoring and metrics

The Director of Service Improvement described the difficulty of directly attributing benefit to Lean improvement work as there are a lot of other contextual factors at play that can mask the value of work.

"The gateway stuff is helping the ward flow, we have genuinely made a difference, we just can't disentangle it from some of the others things that are counteracting it." (Director of Service Improvement)

The Chief Executive reflected on the irony of a profession based on science that is seemingly incapable of collecting and using performance measurement data.

"I think there is a real challenge in terms of measuring benefit in the NHS, surprising for an organisation that is based on science is a bit data averse when it comes to improvement, getting people to be disciplined about collecting the data and all this about whether we've got an improvement or not. (Chief Executive)

The Head of Lean concurs:

> *"I think tracking financial benefits is not going well; we're still struggling with that and that's partly more to do with a lack of buy-in from more traditional support services."*

6.5.5.4 Sustaining Lean

Sustaining Lean in a fast paced fire fighting environment was considered tricky.

> *"People go back to their day job and while they are still in that fire fighting mode the old way of working is the easiest to use because it's the most familiar. They were probably doing loads of wasteful activity however they know how to do that activity. It's keeping it going after the event."* (Lean facilitator)

> *"I have led some work in theatres that hasn't been as successful. It's better than it was, but it hasn't been as successful as I'd hoped, and that's purely because people go back to working the way they've always worked when it gets busy. The changes probably weren't big enough and it wasn't made impossible to be put back to just the way it was, so people revert back to type"* (Lean facilitator)

6.5.6 Summary of case study findings (RBH)

This section briefly summarises the case study findings related to RBH under the headings context, process, content and complexities.

Context

The drivers of Lean implementation at RBH are identified as a combination of:

i. A better experience for staff and patients
ii. A new Chief Executive with an interest in Lean
iii. Performance 'fires'

Process

The case study supports document analysis findings: that RBH is implementing Lean via a 'systemic' approach. The findings support the contention that the approach of Lean implementation at RBH differs considerably from a programme approach. This particularly evidenced by the views of staff regarding their 'understanding of lean' (section 6.5.2.1) and the statement of the Chief Executive: *'I like to think that [Lean] is now the lens through which we run the hospital'*. A formal internal change team has been created and Lean training and education is graded and aligned with appraisal and promotion. The process dimension of Lean implementation at RBH is summarised as comprising of:

i. Systemic approach
ii. Internal change team (formal)
iii. Training essential for all staff, with accreditation
iv. A Trust wide framework for improvement (Bolton Improving Care System, BICS)

Content

In contrast to the other case studies, the impact of Lean implementation at RBH is summarised by staff at an organisational level as relating to:

i. Cultural change
ii. Improved performance.

Complexities

Complexities of Lean implementation at RBH are summarised as:

i. Ownership/Permission to change
ii. Engagement of middle managers and medical consultants
iii. Accountability and measurement (existing approach is too complicated)
iv. Sustaining Lean.

6.6 St Helens and Knowsley Teaching Hospitals NHS Trust (SHK)

6.6.1 Background and overview of Lean implementation the Trust

St Helens and Knowsley Teaching Hospitals NHS Trust (SHK) is a medium sized Trust situated in the North West of England, and employs around 4000 staff. The Trust operates at two sites (Whiston hospital and St Helens), in close proximity and are both operating in new buildings using the Private Finance Initiative (PFI) funding scheme. Whiston hospital was completed in April 2010 and the St Helens site was completed in October 2008. In 2009 the Trust achieved a 'double excellent' rating from the Care Quality Commission for the second consecutive year. The Chief Executive of the hospital is Ann Marr who has been in post since 2003 suggesting that the operating environment is stable.

Evaluation of the Trust's annual reports for the operating period 2007/08 (T1) and 2009/10 (T2) suggests that the Trust has implemented Lean projects in the past. The Trust is categorised as 'few projects' for both operating periods (see Volume II, case 44). A preliminary meeting revealed that the Trust were quite sceptical about Lean and were consciously not branding improvement work under the new service improvement team as 'Lean'. There was also no schedule of projects taking place however at time of case study, a rapid improvement event was about to commence in Ophthalmology, of which the researcher was able to observe.

The service improvement team was newly established in the Trust with the majority of the team being in post for approximately 12 months at time of interview (November 2010). The team had only just begun to promote themselves widely in the Trust.

6.6.1.1 Interviews

Interviews were arranged and took place on 26th November 2010. Ten interviews were arranged to take place however, on the day of the interviews four members of staff were off sick and one did not turn up for interview. Table 6.5 lists the job titles of interview respondents.

Table 6.5 List of respondent job titles

Job Title
Directorate Manager for Ophthalmology
Improvement and Development Manager
Appointments Manager
Theatre Coordinator
Matron

6.6.2 The Context of Lean implementation

6.6.2.1 Understanding Lean: 'what is Lean?'

Of the five interviewees, one was completely unaware of the term and concept of 'Lean' although she was familiar (but not involved with) a 'productive theatre' programme in the Trust. Whilst the remaining three respondents were very supportive of Lean and the impact of Lean upon performance and morale, one respondent indicated a 'stigma' surrounding Lean based around past activity where no improvement was perceived to have come out of it because no feedback has been communicated back to the participants or to the wider organisation.

> *"I don't know when it was, I just heard of a Lean event and you know it's: "nothing comes of it, nothings implemented"... You don't get any feedback from it, so I think getting more people involved in them and more follow up after them would really help take away the bad knowledge of it"* (Appointments Manager)

Two respondents defined Lean in a broadly similar way around the principle of patient flow. The matron refered to *'best possible service for patients'* while the facilitator emphasised tools and techniques:

> *"Streamlining processes so that there are not too many gaps or, too many interjections in the service. So that the patient gets the best possible service in the shortest possible time".* (Matron)

"For me, first of all its about waste, but its incorporating all the different tools and techniques… how do your systems or how does your product differ (in this case the patient) and how does that flow through those systems, and whereabouts is the waste created." (Facilitator)

6.6.2.2 Drivers of Lean Implementation

In ophthalmology, where a Lean project was taking place at the time of case study, it was noted by the Directorate Manager for Ophthalmology that performance targets were not currently a driver for improvement as the department and the Trust as a whole was performing very well. The driver for Lean in ophthalmology was identified by the matron as being about 'raising staff morale'.

"People are tired, they are ready for change and improvement" (Matron)

The facilitator had a different view, his view depicted clinics that were capacity driven rather than demand driven where, for example, patients were deliberately not scheduled for late Friday afternoon slots.

"it's driven by two things, obviously it's the cost, but the main driver for it is the money from excess, in that when people come to the hospital, they don't want to see any patients anywhere particularly on Friday afternoon, come half past 3 its very difficult to find a patient"

In summary, the key driver for Lean implementation at SHK falls under the category of raising the quality of staff and patient experience.

6.6.3 The Process of Lean implementation

6.6.3.1 'Few projects' approach

The category of a 'few projects' approach to Lean implementation in the Trust was supported through the interview data. The Directorate Manager for Ophthalmology informed the researcher that an outpatients Lean event had taken place in 2008 but was not deemed to have been successful. The proposed reason for a lack of success was that the target of the event was driven by senior management with a view to implementing a one-stop clinic and not everyone had wanted this outcome.

In support of a 'few projects' classification of approach to Lean implementation, a second outpatients improvement project was in progress alongside some 'waste' work in theatre. These projects appeared unconnected.

> *"We've been looking at waste in theatre and more recently in outpatients. Theatres are on the second stage of that project that we kick that off from around March time, outpatients is just coming just towards the end of its first stage, 6 weeks now, 6 or 7 weeks"* (Improvement facilitator)

6.6.3.2 Productive Ward

Productive ward (PW) was gaining momentum in the Trust. Productive ward was identified as taking place in the Annual report for SHK (2009/10) and all respondents made reference to either productive ward or productive theatres. The productive ward modules introduce staff to 5S to stabilise working practices and waste less time looking for resources. One implied that PW can help get into the Lean mindset:

> *"Because they're not on board, (no productive wards yet), they are not motivated into that thought process so I think in ophthalmology we just need to be aware of it and need to be aware of what's out there for us to do really"*(Matron)

6.6.3.3 Training

There was no Lean training programme in the Trust at the time of interview, however a set of training materials were said to be currently in development for use in conjunction with the productive theatres modules, before being rolled out across the Trust; again supporting the contention that PW is being used as a platform for developing Lean implementation in the Trust.

> *"I've developed some training which is looking at what is waste, where can you find them, how can you eliminate them, what kind of things can you do to try and improve things, that's due to go out as part of the productive theatres but hasn't yet."* (Improvement facilitator)

There was also a vision for developing 1-2 day problem solving workshops to enable problem solving across the Trust and thereby not limiting the activity to the service improvement team.

6.6.3.4 Observation of Lean implementation

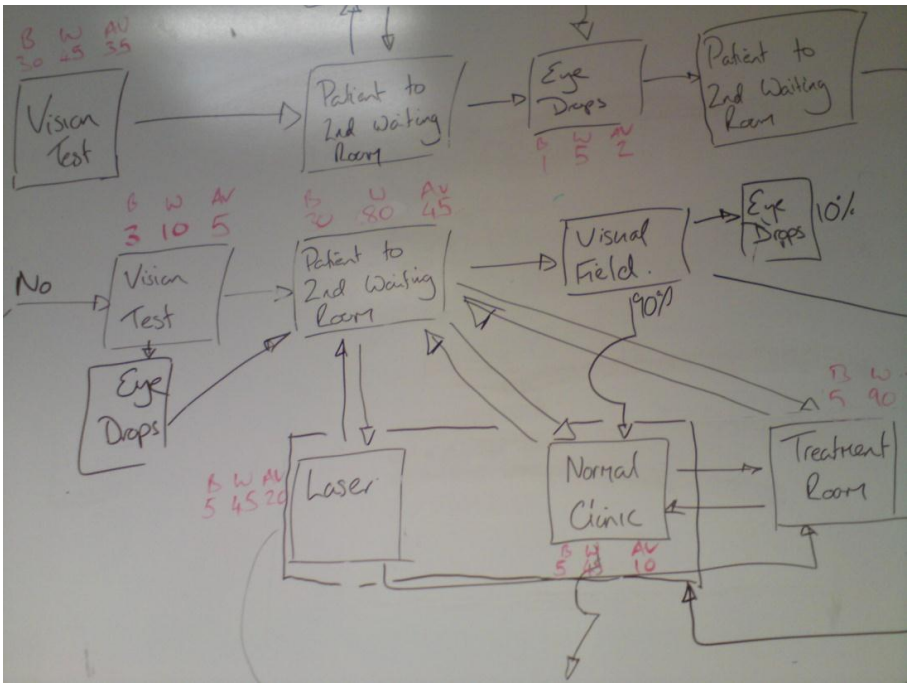
The researcher was able to observe a Rapid Improvement Event in Ophthalmology in December 2010. Despite efforts by the Directorate Manager for Ophthalmology, no medical consultants from Ophthalmology would attend. The event involved just six members of staff including two appointments managers, two assistants, a nurse and a matron. The improvement event took place on two non-consecutive days in the same week. During the morning of day one some training took place which involved a very simple overview of seven types of waste; no other training was proffered and no reference to Lean or the principles of Lean were given. The rest of the morning was spent mapping the patient pathway, requiring all event participants to sit with patients and record their waiting times. The range in waiting times was between ten minutes and nearly two hours. During this time, patients were moved from one waiting room to another and saw between two and five clinicians. It was observed that one consultant arrived one and a half hours late for a three hour clinic; this behaviour was said to be common in the department. The matron stated that the reason given by consultants for being late was that the patients were never ready for them,

suggesting that the nurses had not completed preparatory diagnostics that take place prior to their appointment with the consultant. The matron described the situation.

> *"Generally depending on what clinic it is, some consultants can turn up 10.10am, some doctors, the new man who has just started, he was here at 8.50am, but in the main, consultants are late. When I did ask the question they said it was because the patients aren't ready…and that element of blame has a negative effect on the nursing staff."* (Matron)

The afternoon of day 1 was spent trying to agree the pathway of the patient with the general tone being that *'every patient was different'*, suggesting that to map the pathway was too complex. The process of mapping the pathway at SHK was very different to the other three case studies. In this instance, it was not the participants who were modelling the pathway with post-it notes and brown paper it was the facilitator attempting to draw the process on a white board (see Figure 6.5). At the end of day one there was a consensus that the pathway was fine, there was no room for improvement and it was the doctors' fault that waiting times were high and staff morale was low. On day two, the improvement facilitator had himself redrawn the process map using pen and paper and the day was spent challenging the representation of the process. The use of quality improvement tools such as the Kano model, the Ishikawa diagram and five why's were not employed to get to the root cause of problems.

Figure 6.5: A process map drawn on white board by Lean facilitator



Overall, the observation of Lean implementation at SHK revealed the process of Lean implementation to be very different to that of UHCW and RBH with far less rigorous application of tools and far less structure.

6.6.4 The Content of Lean implementation

6.6.4.1 Description of Impact and outcomes

As the Trust's 'few projects' approach was in its infancy, the impact of Lean was more difficult to ascertain than the previous three case studies. In A&E the impact of process mapping activity was reportedly *'getting closer to [national performance] targets'* (Improvement facilitator). One respondent reports the impact of Productive Ward as increasing morale; in contrast to the ophthalmology department, the respondent reports no problems with clinics starting late due to consultant behaviour.

> *"My nurses are more motivated, we do have clinics that run late but it's not because they start late it's because the quality of the patient or the variation of patients and*

the patients different conditions and that sometimes contributes to the clinics running over" (Matron)

6.6.5 Complexities of Lean implementation

Complexities highlighted by respondents fall under the categories of: culture; engagement of consultants; and time commitment.

6.6.5.1 Culture

The Directorate Manager for Ophthalmology describes SHK as a former 'cottage hospital' where a small number of staff are working in a small organisation, and doctors appear to have a dominant influence over the whole process. The respondent suggests that traditionalist attitudes that formed part of such a small organisation have not changed as the Trust has grown in size and complexity. The Director refers directly to what he terms as 'behavioural issues' of consultants, which were frequently cited during the interviews, and all respondents make reference to this. Particular problems in Ophthalmology relate to Doctors on the unit persistently turning up late and over-running their session times forcing the nurses to stay and work overtime. The nurses were not paid in cash for overtime they were paid 'time in lieu', unfortunately nurses were rarely able to take the time owed to them without leaving the process further under-resourced. The nursing team were reportedly low in morale and generally fed-up. One respondent summarised the situation in ophthalmology: *"they are a law unto their own, they are not team players"* (Matron).

The problem did not seem to be limited to ophthalmology rather it seemed to be something that was considered typical in the Trust.

> *"The Lean event was quite good really, found it quite helpful. What came out of it was obviously consultant behaviour…"* (Appointments manager)

> *"making sure that we can get the surgeons on time into theatre, that old chestnut … we do have a problem with the surgeons not turning up, the patients are all here, all clerked in just waiting for the surgeons to go and mark the patients"* (Theatre co-ordinator).

When asked whether Lean improvement work might help the consultants see the process as a whole the Matron responded *"it would have to be a dripping tap, I have to keep telling them that they are wearing the nurses down to be perfectly honest, I have told them that it isn't a very nice place to work, that the atmosphere isn't very good at some times and I think it came as a bit of a shock".*

The problem however did not seem to be limited to the consultants, a similar situation was described by the theatres co-ordinator relating to the employment of 'escorts' to transport patients to/from wards and theatres. These 'escorts' were previously employed as healthcare assistants but were redeployed as escorts following a ward closure. It transpired that there was no formal job description for the escorts, and the escorts purportedly refused to transport patients unless the patients were able to walk themselves. The following excerpt highlights the situation:

> *Researcher:* why won't they push the trolley?
>
> *Theatres co-ordinator:* they say it's not in their job description but no-one actually knows what their job description is you see… I phone saying I need a patient to come back on a trolley, can an escort come over with somebody else and push, but they won't. So that patient will stay with me until someone can take them back, that is a big bug bear with the escorts.

From the interviews, a barrier to service improvement was the perception that things are set in stone and there is not much you can do other than a bit of a 'tidy up'.

> *"the process for ophthalmology geographically - I don't think there is much move in the patient channel we haven't got much option to change really the pathway through the department, but maybe some processes, we could tidy up on that."* (Matron)

6.6.5.2 Engagement of middle managers and medical consultants

Getting consultants to attend improvement activities appeared to be a widespread problem in the Trust:

> *"There was no consultants there which I think definitely should have been… definitely the consultant not being there was the main problem with ours because we had every other type of person that could make things happen but it was just really the consultants that weren't there.* (Appointments manager)

There was some evidence of a strong sense of hierarchy in the organisation based on the perception that it was the managers who were the ones who can ultimately initiate service improvement. Two respondents described situations in which they had tried to enact improvements but felt that their opinions were not welcome, that they were stepping outside of their role.

> *"when I highlight problems to the directorate managers about capacity etc, that is my job done, I shouldn't have to do anymore, because it is then obviously their role to take things from there....I was told 'it's not your monkey'"* (Appointments manager)

> *"I got told off in the week for doing more than I should have done – because I was using my initiative* [Researcher: By who?] *By Mike [general manager]; he had a couple of complaints from the band 6's saying I was undermining them by using my initiative too much" (Theatres Coordinator)*

The theatres coordinator was pressed further in relation to her ability to influence improvement in the Trust. Talking about her line manager, she reflected:

> *"He is always so busy, he's got this meeting or that meeting, because I'm on the desk I try and sort it out myself, but got told off in the week for doing more than I should have done"*

6.6.5.3 Accountability, monitoring and metrics

There was an overall resistance to the use of data in the Trust. The improvement facilitator portrayed a perplexing view on how the role of service improvement was perceived in the Trust, citing a resistance to data as a key barrier:

> *"I am still trying to figure out whether people don't see it as their responsibility or whether they see it as their responsibility but they don't feel that they have the authority to do anything about it and I'm not too sure which one of those that it is... there is no kind of systems in place for example for problem solving, there is no problem solving training… nothing is documented, there is no sort of formal data anywhere... there seems to be a really large resistance to putting any performance data anywhere."* (Improvement Facilitator)

6.6 6 Summary of case study findings (SHK)

This section briefly summarises the case study findings related to SHK under the headings context, process, content and complexities.

Context

The drivers of Lean implementation are identified as relating mainly to:

i. A better experience for staff and patients

Process

The case study supports document analysis findings: that SHK is implementing Lean via a 'few projects' approach. An internal change team has been newly created and the team are in the process of developing Lean training materials. The process dimension of Lean implementation at SHK is summarised as comprising of:

i. Few projects approach
ii. Internal change team (formal)
iii. No training yet.

Content

The approach to Lean implementation was very recent and thus it was difficult to determine the impact of Lean implementation. However, one respondent reported the impact of Lean implementation at a local level as the improved morale of staff.

Complexities

Complexities of Lean implementation at SHK are summarised as:

i. Culture
ii. Engagement of middle managers and medical consultants
iii. Accountability and measurement (existing approach is too complicated)

6.7 Summary of case study analysis

Chapter 6 has provided evidence that the approach to Lean implementation varies between hospital Trusts and supports the contention that approaches to Lean can be identified and classified. The case studies also support the findings of document analysis in relation to the approach to Lean implementation, providing far greater detail and depth of analysis through a case study approach.

The next chapter (chapter 7) presents a discussion of findings as presented in chapters 4, 5 and 6 to consider research questions 1, 2 and 3.

In summary, the following research questions are discussed in light of findings presented in chapters 4, 5 and 6:

1. *Can different approaches to Lean implementation be characterised in English hospitals?*
2. *Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?*
3. *Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?*

Chapter 7: Evaluating Lean implementation in the English NHS – Discussion of findings

7.0 Chapter Summary

This chapter seeks to combine the findings from the mixed methods approach to data collection, (document analysis, quantitative analysis and case study analysis) and discuss them in the light of emergent patterns and themes, relating these findings back to the literature presented in Chapter 2, *Exploring Lean*. The overarching intention is to advance knowledge relating to Lean implementation in English hospitals. In doing so, this chapter continues to draw upon the work of Pettigrew and Whipp (1991) and Pettigrew et al (1992) in developing a discussion around the relationship between the context of the organisation and the implementation of Lean.

The discussion is structured around the three research questions. Section 7.1 considers research question one: *Can different approaches to Lean implementation be characterised in English hospitals?* This section fuses the findings of the document analysis (chapter 4) with the case study analysis (chapter 6) to provide a detailed discussion of the approaches, i.e. the different methods of Lean implementation by hospital Trusts as identified and classified in chapter 4.

Section 7.2 fuses quantitative data analysis (chapter 5) with case study analysis (chapter 6) to consider research question two: *Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?* Chapter five finds little quantitative evidence to suggest that Lean improves organizational performance, however, this section considers the case study data of chapter 6 to offer a more detailed discussion of the impact of Lean implementation through the views of those experiencing Lean implementation at a local level.

Finally, section 7.3 presents a cross case analysis to consider the third research question: *Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?* Here the discussion seeks to draw comparisons between the literature review of chapter two and the research findings relating to context as identified from both the document analysis data (see Volume II) and case study data (chapter 6). This section also begins to discuss the nuances of Lean implementation in healthcare to support the contention of Taylor and Taylor (2009), that in order to advance our understanding of Lean implementation in healthcare we need to apply new theoretical lenses.

7.1 *Can different approaches to Lean implementation be characterised in English hospitals?*

Here we discuss data relating to research question one: *Can different approaches to Lean implementation be characterised in English hospitals?*

Document analysis data lends support for the contention that Lean implementation is widespread in English hospitals (Young and McClean, 2008; Brandao de Souza, 2009) and suggests that the popularity of Lean methods in English hospitals has continued to rise during the period 2007 to 2010 (T1 and T2). Moreover, a typology of approaches to Lean implementation emerged from the document analysis data providing evidence of the varied nature of the approach to Lean across English hospital Trusts operating in England during 2009/2010. The findings present a new insight and potentially important contribution to knowledge for two key reasons. First, it provides a way of distinguishing one approach from another and facilitates a more detailed explanation of why successful Lean implementation has been inconsistent (Boyle et al, 2011); second it allows a tracking of Lean implementation over time. This is important given the contention that the distinguishing factor will be the method of implementation (Corbett, 2007).

Figure 7.1 replicates the emergent typology of approaches to Lean implementation by English hospitals as presented in chapter 4.

Figure 7.1: Typology of approaches to Lean implementation

Tentative – Trust staff are contemplating Lean; there may be evidence of a pilot project in the annual report or staff magazine or a tender for external management consultancy to help with implementation identified in archival documents available on the Trust website.

Productive Ward Only (PW) – The annual report highlights the implementation of Productive Ward and/or Productive Theatre but no other evidence of Lean implementation is identified. The 'Productive series' is a structured programme of work devised by the NHS Institute for Innovation and Improvement (NHSIII) and has been rolled out nationally.

Few projects – The annual report describes one or more projects in the Trust that involve the implementation of Lean principles and methods. The projects tend to be functional, based in departments and do not appear to be linked in any way to a programme of improvement that focuses on processes across the whole organisation or across specific pathways.

Programme – The annual report or website identifies the use of Lean principles underpinning work programmes that cross the organisation and patient pathways and is expected to last between one and five years.

Systemic – The annual report refers to the process of embedding Lean principles in the Trust as a whole so that it becomes 'the way we do things around here'. This is often identified as part of the Chief Executive's statement in the opening pages of an annual report. A systemic implementation also emphasises Lean training for all staff and there is evidence of a long term commitment to Lean.

7.1.1 Distinguishing one approach from another

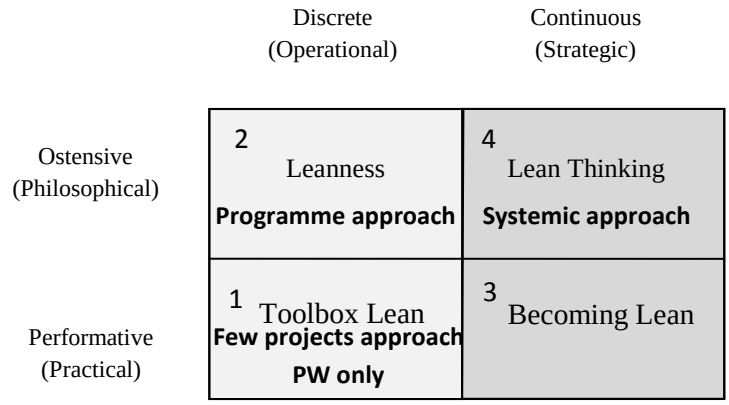
The development of a typology of approaches to Lean implementation helps us to distinguish between Trusts who are 'talking about Lean' as prophesised by Liker (2006), and implied by others (Pettersen, 2009; Emiliani, 2008; Bhasin, 2008), from those Trusts who are implementing Lean as a management system (Ohno, 1988). The data presented in chapter 4 reveals that during the operational period 2007/08 (T1), 52% of hospital Trusts in England were 'talking' about Lean (i.e. they mention Lean in their annual reports and/or on their websites). Of those hospitals, only 3% were identified as taking a systemic approach. This finding presents a very similar picture of Lean implementation in healthcare as that projected by the auto industry: *"50% of auto suppliers are talking about Lean, 2% are actually doing it"* (Liker, 2006, p2 cited in Bhasin, 2008).

T2 data suggests that the percentage of hospital Trusts implementing Lean in a systemic manner rises to 10%, reminiscent of Bhasin's (2008) contention that successful implementations of Lean in UK organisations are around 10%. Thus based on this data, the researcher might conclude that Lean implementation in English NHS hospital Trusts is

following a similar trajectory to that of the automobile industry, a proposition made by other authors such as Hines et al (2004) and recently Radnor et al (2012).

In discussing the contention that discernible approaches to Lean exist, section 2.4.3 described a framework of approaches to Lean implementation put forward by Pettersen (2009), but noted the lack of empirical evidence as a key weakness. The typology of approaches emergent from this study could be compared to that of Pettersen (2009) to examine whether the findings of this thesis support Pettersen's framework and if so, to what extent. Figure 7.2 reproduces Pettersen's framework, placing the emergent categories of approaches listed in figure 7.1 alongside the equivalent categories of Pettersen's framework where appropriate. The categories emergent from this research are highlighted using bold font.

Figure 7.2: Characterisation of approaches to Lean (adapted from Pettersen, 2009)



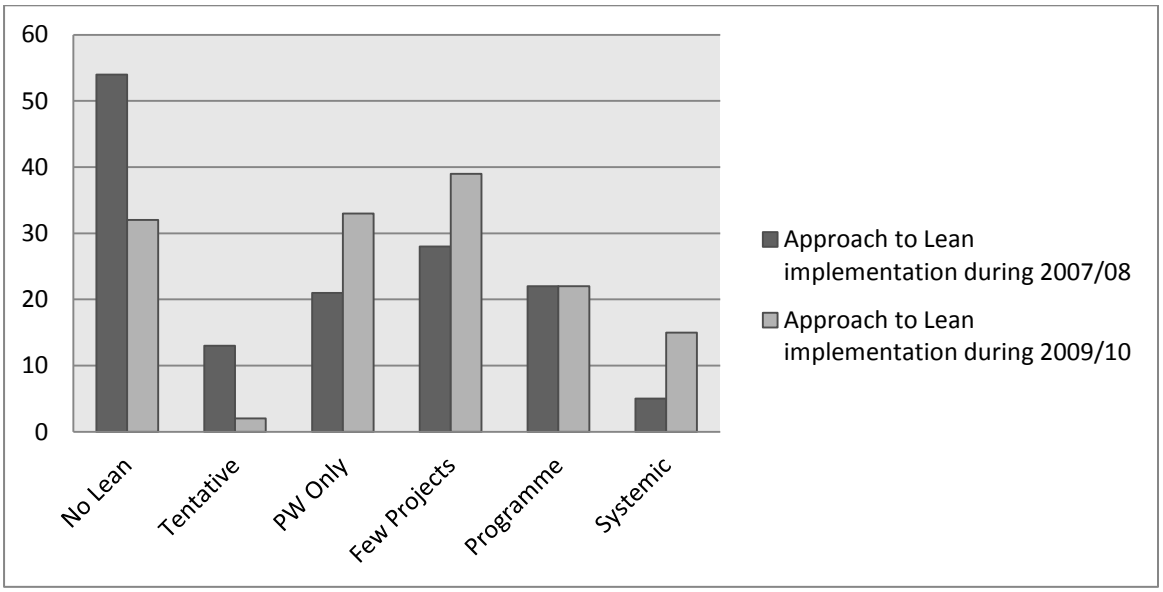
As described in section 2.4.3, Pettersen's framework differentiates approaches that are 'ostensible' (seeming to be true, i.e. Lean as a philosophy) and those that are performative (i.e. pragmatic, possibly related to national targets), against the level of implementation which the author identifies as: discrete (operational), or continuous (strategic). Applying these parameters to the emergent typology of this study would suggest that Trusts identified as taking a systemic approach to Lean implementation would fall in the upper right quadrant of Pettersen's framework (quadrant 4); these Trusts employ Lean as a philosophy on a continuous basis thus according to Pettersen's framework they are conceptually 'Lean Thinking'. Trusts that are identified as adopting a 'programme' approach are ostensibly adopting 'Lean thinking', yet the implementation of a programme suggests that Lean is being implemented in a planned manner and has not (yet) been aligned to long term strategy. Thus

a ‘programme’ approach might conceptually be considered as an ostensible but discrete approach to Lean implementation which Pettersen identifies as ‘Leaness’ (quadrant 2). A ‘few projects’ approach resonates with Pettersen’s contention that organisations implement Lean in a discrete fashion towards performative goals, thus a ‘few projects’ approach and for similar reasons, a ‘productive ward only’ approach, resonates with Petersen’s category of ‘toolbox lean’ (quadrant 1). A fourth characterization of Lean put forward by Pettersen’s (2009) framework does not resonate with document analysis findings and that is the suggestion that Lean implementation can be both performative and strategic. It is recognised that Pettersen (2009) provides little elaboration of these categorisations thus it is difficult to judge precisely what is meant by the author, however this occurrence is conceptually difficult since it suggests that Lean methodology is being implemented continuously towards a ‘performative’ orientation (i.e. to implement Lean to achieve short term goals). The findings of this research do not support this characterisation of Lean. Furthermore, Pettersen’s framework does not capture a ‘tentative’ approach to Lean. This might be because organisations that are categorized as ‘tentative’ in their approach are considered to be at a very embryonic stage of Lean implementation. A recent paper by Boyle et al (2011) suggests that this may not be case; Boyle et al contend that an indirect relationship exists between management exposure to external information sources (such as attendance at conferences and workshops) and an increase in management commitment to Lean (and ultimately the extent of Lean thinking in the organisation). Thus, the ability to capture Trusts who are ‘tentative’ to Lean may be a useful indicator of the propensity to further develop Lean thinking in the Trust.

7.1.2 Distribution of approaches to Lean implementation by English hospital Trusts

Descriptive statistics are presented in chapter 4 to illustrate the dispersion of approaches to Lean implementation across the study sample (see figure 7.2). Figure 7.3 highlights a considerable increase of systemic approaches to Lean implementation in T2, however the data also highlights the predominance of ‘tool based’ approaches of Lean implementation. This finding provides support for the contention of the extant literature that the majority of Lean implementations in English hospitals are indeed ‘tool-based’, focusing on small projects in order to yield point optimisation rather than incite system wide change (Voss, 1995; Holweg, 2007; Roth, 2006; Young and McClean, 2008; Proudlove et al, 2008; Balle and Regnier, 2007; Radnor and Walley, 2008; Radnor et al, 2011).

Figure 7.3 Approaches to Lean by English hospital Trusts



7.1.3 Trajectory of Lean implementation

The emergent typology of approaches presented in chapter 4 also allows us to track the journey of Lean within individual Trusts as well as within larger study populations. The dataset presented in chapter four considers the trajectory of movement between approaches to Lean from T1 to T2 (see figure 7.4). Looking at the trajectory of movement in this way allows the research to begin to infer a proposition regarding the general trajectory of Lean implementation in English hospitals towards an increasingly strategic approach. Figure 7.2 illustrates that 70 hospitals (49%) appear to have progressed their approach to Lean implementation during the period (i.e. moving from 'tentative lean' or 'PW' to 'few projects', 'programme' or 'systemic' approaches during T2); 51 Trusts (36%) have maintained the same approach. This leads the researcher to enquire whether there is a pattern or sequence (Åhlström, 1998) emerging where Lean implementation might begin with a 'few projects' approach to provide a proof of concept and engender management commitment , which then grows into a more formalised 'programme' and/or towards a systemic approach. Case study analysis of RBH shows how a few projects approach to Lean implementation and a nationally led programme (similar to the productive ward (PW) for example), can successfully develop into a 'systemic' approach. However, a programme approach does not necessarily lead to a systemic approach as neither UHCW nor ELHT have managed this transition to date. Document analysis data suggests that should a pattern or sequence exist, it is not a linear one as the data shows the trajectory of Lean in hospitals across the time period T1 to T2 to be

multiple and varied. Further analysis across a range of time periods would provide further evidence as to the existence or otherwise of a pattern or sequence of implementation towards a systemic approach.

Figure 7.4: Approach to Lean implementation during T1 and T2

	Approach to Lean T2 (number of hospitals)					
Approach T1 (number of hospitals)	No Lean	Tentative	PW Only	Few Projects	Programme	Systemic
No Lean	19	2	16	11	4	2
Tentative	1	0	5	5	1	1
PW Only	6	0	5	7	3	0
Few Project	2	0	4	14	5	3
Programme	3	0	3	2	9	5
Systemic	1	0	0	0	0	4

7.1.4 Validation of approaches to Lean implementation

Case study analysis supports the validity of the emergent typology of approaches to Lean implementation. Three of the four case studies were found to be taking an approach to Lean implementation that reflected the approach inferred by the document analysis data; unfortunately case study analysis at ELHT found that Lean implementation had stalled.

Thus whilst the case study data largely supports the allocation of categories in the manner documented in Volume II, the method provides a snapshot of Lean implementation at a single point in time and should not be considered a robust indicator of the approach the Trust has ultimately taken. Here we discuss the case studies in more detail to clarify the approach to Lean implementation in view of case study data collected related to 'process'.

7.1.4.1 The 'process' of Lean implementation

Data reflecting the 'process' of Lean implementation by English hospital Trusts was collected where possible via document analysis (see Volume II) and further clarified through case study analysis (see chapter 6). Table 7.1 presents a comparison of the process dimension of Lean implementation across all four case study Trusts.

Table 7.1: Summary and comparison of the process of Lean implementation across four case study Trusts.

	Process							
	UHCW		**ELHT**		**RBH**		**SHK**	
Approach to Lean	T1	T2	T1	T2	T1	T2	T1	T2
	Programme	Programme	Programme	No Lean	Systemic	Systemic	Few Projects	Few Projects
Approach to change	Multiple methods (simultaneous)		Multiple methods (consecutive)		Bolton Improving care System (BICS)		Multiple methods (simultaneous)	
Internal change team?	Yes – formal team, fixed term contracts		Yes – informal team		Yes – formal team, permanent contracts.		Yes – formal team, newly established	
Training in Lean	A small amount of training has been undertaken by the internal change team.		2 days of training, open to all staff.		Rigorous and accredited training; basic training mandatory		No training yet.	

Table 7.1 illustrates that the process of Lean implementation varies by the approach to Lean implementation. RBH in particular stands out for taking a 'system' approach to change as opposed to a multiple methods approach favoured by the other three case studies. RBH is the only Trust to solely adopt Lean as an 'improving care system' declaring Lean to be about: *"how you integrate tools and techniques with a management system with leadership behaviours to create a culture for improvement"* (Chief Executive, RBH).

UHCW, ELHT and SHK all employ a 'mixed methods' approach believing Lean to be one of many relevant service improvement approaches available for use. The Chief Executive at UHCW at the time of case study was unequivocal that a mixture of approaches operating simultaneously across the Trust was an appropriate measure to quickly improve the performance of the Trust. Similarly, respondents at ELHT noted the faddish approach to

service improvement adopted by the Trust suggesting that such approaches changed every year. One respondent describes the endorsement of 'demand management' one year, and 'Lean' the next. At the time of case study, Lean had stalled and the favoured approach appeared to be a 'cash improvement programme' led by management consultants Ernst and Young.

A multiplicity of approaches appeared to cause problems of frustration at an operational level in both UHCW and ELHT where internally led improvement work was overshadowed by the use of management consultancies that essentially duplicated local efforts. These case studies support Pascale's prophesy: *"Organisations [that] chum through one technique after another at best get incremental improvement on top of business as usual. At worst, these efforts waste resources and evoke cynicism and resignation."*

At a process level, the case studies reveal further differences between the approaches to Lean implementation identified in chapter 4 that suggest that even within these categories, nuances exist. Comparison of UHCW and ELHT reveals that a similar categorisation of approach (programme) has been executed differently in each Trust. At UHCW the approach to Lean implementation was a systematically planned, deliberate and detailed approach to service improvement; the technical aspect of implementation revolved around a comprehensive matrix of 18 projects across three streams designed by external management consultants and scheduled to take place across two years from January 2009. ELHT's 'programme' approach represented the other end of the spectrum where there was no apparent planning of programme design or rationale for project identification. In interview, the Director of Service Improvement professed that he had himself tried to evaluate which projects had taken place to which end he had identified 18 projects but added *"It could have been more"*. Whilst the multiple projects at ELHT did correspond with an official programme launch, there was no known documentation or rationale in existence to explain why particular projects were chosen and no benefits capture could be identified. In contrast, the planned 'programme' approach undertaken by UHCW also appears to be problematic. The UHCW case study reveals a mixed reaction among respondents regarding the number of projects taking place with many respondents suggesting there were far too many. Middle management in particular found themselves being pulled in many directions with the volume of projects going on throughout the Trust, the demands on their time and the level of administration connected to the projects.

"You give up your whole week which is difficult and by the end of it you are worn out and your mailbox is completely full, piles of work on your desk; you get on with your day job and try to get your head above the water. By which time the project drifts to the back of your mind" (Hospital General Manager, UHCW)

Thus, a comparison of a 'programme' approach at UHCW and ELHT denotes that the approach may vary in the degree that projects are systematically planned and monitored at one end of the spectrum versus projects that are unstructured, unplanned and under monitored at the other end; neither approach appears to be ideal. This finding resonates with Pettigrew and Whipp's (1991) assertion that change programmes require a great deal of energy, an 'under' or 'over' abundance of managerial support can provide a difficult environment for enacting change.

A 'few projects' approach at SHK is confirmed to differ from a programme approach in that only a couple of (unconnected) Lean led projects were identified as having taken place in the Trust, suggesting that the document analysis is accurate in identifying a 'few projects' approach at SHK.

In contrast, RBH's approach to Lean implementation was found to be vastly different from the approach of UHCW, ELHT and SHK. Case study analysis suggests that the differences centre around the degree of structure and commitment to Lean evidenced in three key ways:

i. Alignment between organizational strategy and the operation
ii. Commitment to staff training
iii. Rigorous application of tools and principles

i. Alignment between organizational strategy and the operation

RBH is the only Trust to clearly link its Lean implementation to strategy where the planning and identification of projects to take place over the designated period is as much planned as it is emergent (Mintzberg and Waters, 1985). In this sense, RBH have introduced the Trust's big four corporate goals (known as the 'True Norths') to ensure that all improvement activity at every level of the organisation is aligned to these corporate goals. Annual cycles of process deployment are also designed to identify areas in which to focus improvement work and a 'catchball' process ensures the involvement of middle managers throughout the organisation to influence strategic alignment between the top management vision and the

operational context. Strategic management literature views the middle layers of the organisation as crucial in shaping strategy and enacting change (Nonaka and Takeuchi, 1995; Floyd and Wooldridge, 2000; Balogun, 2003). RBH is the only case study where any attempt has been made to integrate the corporate strategic goals of the organisation with the implementation of Lean at the level of the operation through managerial involvement.

ii. Commitment to staff training

Referring back to table 7.1 we see that the four case studies differ greatly in their approach to training relating to Lean and Lean implementation. RBH was the only Trust to have adopted a rigorous approach to training in Lean principles and methods. There had been no training at SHK at time of case study (although this was said to be in the pipeline), only two days of training had taken place at ELHT, and approximately two weeks at UHCW. At UHCW and ELHT the Lean training was available to facilitator staff only. At RBH however a majority of the 3600 staff members had received basic 'green' accredited training and all staff were reportedly encouraged to advance their training through bronze, silver, gold and platinum levels with training related to opportunities for promotion.

iii. Rigorous application of tools and principles

Observation of RIE's at RBH, UHCW and SHK reveals differences in the level of expertise of the facilitators and the rigour of structure and analysis involved. At SHK it was noted that the expertise, knowledge and experience of Lean implementation of the facilitator was very limited in relation to that of a facilitator at RBH with UHCW falling in between these extremes. Understanding the notion of value in particular was one point of difference. Given that the principles of Lean place value at the heart of Lean implementation (through reducing non-value adding activities i.e. waste) there was surprisingly little identification of what is 'value' and the related concept of 'who' the customer might be. Whilst academically, the problem of identifying the customer in the public sector is highlighted as a difficult one to solve (Young and McClean, 2008; Radnor et al, 2012), those involved in RIEs assumed the patient to be the customer. Despite this, no patient views were ever sought and thus, as UHCW found out, value cannot really be determined without consultation with the customer.

"Some of the outcomes of some of the events is that we've made a lot of presumptions as to what do the patients want, then when we've actually gone to do it it's been completely different. Like for instance we'd been planning a one stop clinic but when we asked the patients, they didn't want a walk in clinic they wanted to come back at a particular slot". (Project Manager, UHCW)

At SHK the researcher observed the facilitator himself sketch a process map onto a white board with pen rather than the traditional brown-paper and post-it note approach employed at RBH and UHCW. The sketch was then used as a focal point of discussion, regardless of its alignment with the everyday activity of staff involved in the process. This is a notable departure from the philosophy of Lean, where the involvement of everyone is a key facet of Lean (Slack et al, 2007; Imai, 1986) based on the premise that the people who are doing the work are the people that understand the intricacies of the process the best. Indeed the process mapping activity is frequently viewed as an illuminating activity that is essential to build consensus around the waste that is present in the process (Bicheno, 2004).

"You can see the people go, 'oh yeah, that's not good is it', you sit back and take it all in" (Outpatients Administration & Performance Manager, UHCW)

The process of an RIE at RBH was a comparatively standardized approach, notable for its attention to what patients value (using the Kano model), for the attendance of patient representatives as 'fresh eyes' at the workshops, and for its rigorous application of improvement tools. As cited in chapter 6, the following quote emphasizes RBH's approach to the use of tools in implementing Lean:

"a lot of people, particularly in the NHS are happy to be working at the softer end of it, the leadership end and do not put the rigour of the tools into it and in my experience these things interact." (Chief Executive, RBH).

7.1.5 Summary and implications for research and practice

Can different approaches to Lean implementation be characterised in English hospitals? The research finds significant evidence of different approaches to Lean implementation by English hospitals. The research findings of chapter 4 suggest that a typology of approaches

can be characterised and these approaches (inferred from document analysis) are validated via four case studies (chapter 6). Whilst the emergent typology supports the work of Pettersen (2009), it fails to support the classification asserted by the author, instead the typology that emerges from the document analysis suggests that five discernible approaches to Lean are employed by English hospitals ranging from *tentative* to *systemic.*

The emergence of a typology of approaches permits researchers to track the trajectory of Lean implementation in organisations over time allowing propositions relating to the implementation of Lean to be supported by quantitative evidence rather than just popular parlance. For example, the statement *"50% of auto suppliers are talking about Lean, 2% are actually doing it"* (Liker, 2006, p2 cited in Bhasin, 2008) is now supported by the use of a typology that enables the researcher or practitioner to distinguish a systemic approach to Lean implementation from other approaches.

Cross case study analysis provides further detail about the implementation of Lean via a few projects approach, a programme approach and a systemic approach. The analysis reveals that differences are evident across each of the categories of approach and also within the category depending on the degree to which improvement activity is planned and monitored by the organisation (in the case of UHCW) or unplanned and unmonitored (in the case of ELHT). Neither approach was found to be without problems. Of particular note were the stark differences between a systemic approach evidenced at RBH and the other approaches adopted by the other three case studies. These differences appear to centre around the degree of structure and commitment to Lean evidenced in three key ways at RBH: alignment between organizational strategy and the operation; commitment to staff training; and a rigorous application of tools and principles.

The next section discusses findings relating to research question 2: *Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?*

7.2 *Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?*

Research question two sets out to establish whether there is any quantitative evidence to support the impact of Lean implementation upon organisational performance. This question is important because it underpins the very roots of Lean, the premise upon which the book *'the machine that changed the world'* (Womack et al, 1990) is based upon: i.e. that the Toyota Production System (known as Lean in the Western world), was the basis for the superior performance of the Toyota Motor Corporation in Japan. It was this premise that brought Lean to the full attention of manufacturers in the Western world (Holweg, 2007).

Chapter 5 presents the findings of statistical analysis that compares the approach to Lean (chapter 4) with organisational performance scores awarded by the Care Quality Commission (CQC). Chapter 5 finds little quantitative evidence that supports the contention that the implementation of Lean leads to improved performance at the level of the organisation, i.e. there is no quantitative evidence to suggest a relationship between the annual performance scores awarded by the Care Quality Commission and the approach to Lean. This finding is discordant with the promise of Lean outlined in Chapter 2, *Exploring Lean* i.e. to improve quality at the same time as reducing cost. Radnor et al (2012) offers one explanation in their suggestion that tool based approaches to Lean implementation such as 'PW only', 'few projects' and 'programme' hit a low lying ceiling of implementation whereby quick efficiency gains are made but the required flexibility to deal with variety in services and variability in demand in the long term is not being developed (Hines et al, 2004; Spear, 2005). The net gain is organisations either being caught up in a perpetual cycle of rapid improvement projects with work returning to the status quo in between (Radnor et al, 2012), or Lean led improvement work may stall altogether.

Contrary to the findings of chapter 5 however, the case studies suggest that Lean does improve performance, but that this improvement tends to be primarily at a localised level. Table 7.2 considers the 'content' of Lean implementation (i.e. the impact of Lean implementation) as evidenced through case study analysis. The left hand column lists the impacts of Lean implementation as perceived and cited by case study respondents; if the impact was cited by a respondent a '✓' is placed in the appropriate column. If the impact was not cited then the cell is left blank. At RBH all impacts listed in table 7.2 were cited by

respondents, and at SHK only one impact was cited. The apparent lack of impact of Lean at SHK however should be considered in light of the fact that the Trust has only recently begun to embark upon implementation, thus respondents and their experiences were far fewer in number than the other three case studies.

Table 7.2 The 'Content' of Lean implementation

	Case study			
Impact	**UHCW**	**ELHT**	**RBH**	**SHK**
Small simple changes	✓	✓	✓	
Focus on patient	✓		✓	
Learning to see	✓	✓	✓	
Implementing new standards	✓	✓	✓	
Challenging steps	✓	✓	✓	
Reduced 'Did not attend'		✓	✓	
Improved morale			✓	✓
Changing culture			✓	
Improved performance			✓	

Despite the findings of chapter five, case study analysis presents evidence that suggests Lean does have an impact as illustrated in table 7.2. It is particularly interesting to see that despite Lean having stalled at ELHT, a number of staff (including consultants) spoke enthusiastically of the service improvements that arose through the use of Lean principles and methods. Furthermore, many of these improvements were considered to have direct implications for patient safety. Perhaps shedding light on this phenomenon, is the suggestion by some authors that part of the reason why Lean requires a lengthy period of implementation before the organisation can start to fully reap the benefits has to do with the need to establish 'basic stability' (Ballé and Régnier, 2007; Smalley, 2005; Radnor and Walley, 2008). This is evident particularly at ELHT where some of the improvements that resulted from Lean projects were *"basic things you would think were first aid, [which] just weren't there"* (Consultant Orthopaedic Surgeon).

Table 7.2 highlights the many positive outcomes of Lean implementation in hospital Trusts, however only respondents at RBH profess to have achieved improvements in performance and organisational culture. At RBH we see that a systemic approach to Lean is beginning to have an impact through changing the organisation's culture from one of efficiency to one of continuous improvement:

> *"What has changed is that in the beginning people really thought it was about money saving but I think we've really been able to demonstrate with time that it is about quality and safety and staff morale and value for money."* (Lean Facilitator, RBH)

However, the Chief Executive of RBH has suggested that the organisation is only just starting to evidence the benefits on the organisation's 'bottom line' [sic] after six years of implementing Lean, thereby supporting the quantitative analysis that Lean is not currently linked to improved organisational performance at an organisational level, but suggesting that this can happen over time.

This finding supports the view that Lean is not a 'silver bullet solution' (Heston and Phifer, 2009), Lean implementation will not impact performance overnight but requires systemic implementation over a long period of time. Thus, organisations implementing Lean with the objective of meeting short term financial goals are unlikely to sustain implementation over time (Radnor and Walley, 2008).

7.2.1 Summary and implications for research and practice

The findings of chapter 5 and 6 portray a complicated relationship between the implementation of Lean and improved organisation performance. On the one hand there is no quantitative evidence that Lean improves performance at an organisational level (chapter 5), but there is some evidence that Lean does have an impact on performance at a local level. However, how we define 'performance' differs according to the level of analysis, where a localised analysis would apply subjective measures of performance such as an improved experience for staff and patients, performance measures applied by the CQC differ in that they tend to employ primarily objective measures. Both types of measures suffer from validity issues; objective measures may not be able to cope with the complexity of public sector performance whilst subjective measures are likely to suffer from the respondents'

predilection towards a particular opinion (Boyne et al, 2005). Case study analysis, suggests the presence of a particular challenge relating to the capture of improvements using subjective measures of performance and the capture of improvements in objective measures. The respondents interviewed across all four case studies recognised that local level improvements were important, however they often struggled to highlight these improvements to the executive board (we see this at UHCW and ELHT). A recent study by Holden (2011) suggests this problem is prevalent. Holden (2011) considers the effects of Lean on patient health and employees through a systematic literature review of published accounts of Lean implementation in emergency departments in the US, Australia and Canada. Based on this review, Holden remarks that through participation in Lean activity, *'employees became better aware of their work and the problems therein, gained new values, and were more eager to participate in and to accept changes created by Lean.'* (p.271); yet reports of the outcome of Lean implementation are rarely evidenced by any form of measurement or data analysis and tend to be in the form of anecdotal evidence (Holden, 2011). This study presents a unique method for linking organisational performance with Lean implementation that permits the user to distinguish between types of approaches to Lean implementation and their corresponding impact upon performance. However, as highlighted in the case studies, subjective data relating to the impact of Lean should also be captured to present a more detailed portrayal of the impact of Lean implementation on organisational performance.

7.3 Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?

Chapter two highlights the frequent reference to 'context' in relation to the development of the Toyota Production System (TPS), later to be known as Lean giving rise to research question three: *Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?* Chapter 2 summarises the influence of context at three levels:

i. External environmental context: Economic and political influences.

The TPS is considered to have developed in response to a difficult economic environment in Japan (Holweg, 2007; Cusumano, 1988). In the public sector, Radnor and Walley (2008) suggest that a rise in Lean implementation can be partly attributed to the call for efficiency gains in the public sector in reports such as the Gershon Review (2004). The call for efficiency gains continues to pervade the political and economic environment as the current coalition government asserts that the NHS is to operate in the context of 'severe constraint on spending' coupled with the requirement of the NHS to deliver £10bn of savings by 2012/13 (NHS Operating Framework, 2010/11:1)

ii. Internal environmental context: Organisational crisis and leadership commitment.

Analysis and comparison of Lean implementation in hospitals using the frequently cited case studies of Virginia Mason in America, Flinders Medical Centre in Australia and Royal Bolton Hospitals in the UK (see section 2.9) finds an organisational crisis coupled with leadership committed to change (via Lean implementation) as a common denominator between Lean implementation in these three exemplary case studies.

iii. Individual context: Resistance to change by management and medical consultants.

The extant literature frequently identifies the importance of management engagement and buy-in yet analysis and comparison of Lean implementation in hospitals using the frequently cited case studies of Virginia Mason in America, Flinders Medical Centre in Australia and Royal Bolton Hospitals in the UK (see section 2.9) finds resistance to change a key limitation of implementing Lean. All three organisations reflect this problem, and the notion that change is counter cultural for the NHS.

In view of the levels of context identified in chapter 2, this section addresses research question three in three key ways:

i. Section 7.3.1 presents a cross case analysis of the drivers of Lean implementation to consider the extent to which the economic and political contexts might influence Lean implementation.

ii. Section 7.3.2 evaluates document analysis data to consider the approach to Lean implementation adopted by hospitals categorised as facing a 'crisis' in either T1 or T2 and the Trusts corresponding leadership stability and background (i.e. was there a change of Chief Executive during T1 and T2 and is there any evidence that the Chief Executive has an interest in or experience of Lean).

iii. Section 7.3.3 presents a cross case analysis of the emergent complexities to Lean implementation to consider what aspects of context influence Lean implementation at a micro-organisational and individual level.

7.3.1 Cross case analysis of the drivers of Lean implementation

Table 7.3 presents a summary and comparison of the drivers of Lean implementation as cited by respondents at each of the case studies. Where a '✓' symbol is present in a table cell then the drivers listed to the left of the table are articulated by respondents at the corresponding Trust.

Table 7.3: Summary and comparison of the drivers of Lean implementation

Case Study:	UHCW	ELHT	RBH	SHK
	Context (Drivers of Lean)			
Performance targets & Finance	✓	✓	✓	
Quality	✓		✓	✓
Chief Executive			✓	

Table 7.3 illustrates that 3 out of 4 of the case studies articulate economic or political influences in the form of performance targets and/or financial pressures as a driver of Lean implementation in the Trust. SHK is the only Trust not to purport a link between the need to make financial savings or improve towards performance targets and the decision to implement Lean. The degree to which performance targets and finance influence Lean implementation appears to vary with individual organisational circumstances: every respondent at ELHT identified the driver of Lean implementation as 'finance'; UHCW and RBH are more subtle about the link, stating that the need to save money is essential and ultimately reducing costs is part of Lean implementation. At SHK, the driver for implementing a 'few projects' approach is identified solely as 'improving quality', the respondents suggested that high performance ratings (CQC awarded performance scores of excellent/excellent for 2007/08 and 2008/09) did not present a receptive context for improvement as Doctors could justify their non-involvement in projects based on the fact that the scores suggest they are performing well. At ELHT performance scores good/weak and fair/fair for 2007/08 and 2008/09 respectively presents a very different political and economic context to SHK; correspondingly a lack of emphasis on 'quality' is evidenced across all three dimensions of strategic change where the process of Lean implementation involved just two days of training in Lean principles and methods to a very limited number of staff; similarly, with regards to the 'content' dimension (see table 7.2), there is no evidence of improvement work that is focused on the patient or on improving staff morale.

RBH is unique in their naming of the Chief Executive as a key driver of Lean, one respondent referring to the Chief Executive as *'the pioneer of Lean in the hospital'*. In congruence with the findings of chapter 2, cross case analysis supports the view that Lean implementation is influenced by context, but does not suggest that economic and political influences alone are sufficient to drive the implementation of Lean. Cross case analysis suggests that the commitment of the Chief Executive to Lean implementation could be an important aspect of a systemic approach to Lean.

7.3.2 Evaluating Lean implementation in relation to 'crisis' and leadership

Document analysis data categorizes organizational context as 'crisis' where a Trust is identified as officially breaching their terms of authorization. Usually this situation is articulated in the management commentary of the annual report but the data is also freely

available from the independent regulators Care Quality Commission (CQC) and Monitor (see Volume II for evidence of coding rationale). Thirteen hospital Trusts were coded as facing a 'crisis' during T1 and/or T2, of these thirteen Trusts, only one had developed a systemic approach to Lean; all other approaches appear varied. Table 7.4 lists the thirteen Trusts identified as facing crisis in T1 and/or T2 alongside the approach to Lean as inferred via document analysis and the stability of leadership in the Trust. Where a Chief Executive has changed during the period T1 to T2 this is categorized as 'change', and where the Chief Executive has remained the same this is categorized as 'stable'.

Table 7.4 Trust facing 'crisis' in T1 and/or T2

Name of Trust	Chief Executive	Size	Performance	Performance	Approach to Lean T1	Approach to Lean T2
Hinchingbrooke Health Care NHS Trust (case 131)	Change	S	Crisis	Change, uncertainty	Programme	Programme
South London Healthcare Trust (case 18)	Change	L	Crisis	Finance Focus	No Lean	No Lean
Mid Staffordshire NHS Foundation Trust (case 102)	Change	M	Crisis	Crisis	Few projects	Few Projects
Scarborough and North East Yorkshire Healthcare NHS Trust (case 123)	Change	S	Crisis	Success, recovery	Tentative	PW only
Maidstone and Tunbridge Wells NHS Trust (case 68)	Stable	M	Crisis	Success, recovery	PW only	PW only
Heart of England NHS Foundation Trust (case 100)	Change	L	Performance Issues	Crisis	Programme	Programme
Basildon and Thurrock University Hospitals NHS FT	Stable	M	Performance Issues	Crisis	No Lean	Tentative
Colchester University Hospital Foundation Trust (case 129)	Change	M	Success, recovery	Crisis	Programme	No Lean
Dorset County Hospital NHS Foundation Trust (case 73)	Change	M	Success, recovery	Crisis	No Lean	PW only
University Hospital Of South Manchester NHS Foundation Trust (case 48)	Change	M	Successful performance	Crisis	No Lean	Systemic
Heatherwood and Wexham Park Hospitals NHS Foundation Trust (case 55)	Change	M	Successful performance	Crisis	Few projects	No Lean
The Medway NHS Foundation Trust (case 72)	Change	M	Successful performance	Crisis	PW only	PW only
University Hospitals Bristol NHS Foundation Trust (case 87)	Change	L	Successful performance	Crisis	Programme	Programme
Gloucester Hospitals NHS Foundation Trust (case 74)	Stable	L	Successful performance	Crisis	Tentative	Few Projects

Table 7.4 highlights the high degree of leadership change in hospital Trusts that are facing 'crisis', where 11 out of the 13 Trusts (85%) have experienced a change of CE at time of organisational crisis. However, the table shows no apparent correlation between the context of 'crisis' and the approach to Lean implementation. Of the Trust's identified as facing 'crisis' during T1 and/or T2 one hospital does appear to have adopted a systemic approach to Lean implementation in T2: University Hospital of South Manchester Foundation Trust (UHSM). Like the majority of Trusts listed in table 7.4, this Trust had recently appointed a new Chief Executive, however as discussed in Chapter 4 (section 4.1), this Chief Executive is identified as having an interest in, (and experience of), Lean implementation having previously been the Chief Executive of Blackpool Fylde and Wyre Hospitals NHS Foundation Trust, a Trust where the approach to Lean implementation is categorised as 'systemic' during T1 and T2. The opening management commentary of UHSM's annual report 2009/10 denotes a period of instability and challenge during T2, and a categorical interpretation of 'crisis' is allocated due to the Trust's failure to achieve a number of key targets leading to breach of authorisation (see case 49, Volume II). Thus the context of the Trust's rapid ascension from 'no Lean' to a 'systemic' approach occurs in parallel to a period of organisational change and challenge, in particular: a new Chief Executive with experience of Lean methodology in a healthcare setting and a number of 'performance fires'. Furthermore, the annual report highlights the commitment of leadership to change:

'The biggest breakthrough of the last twelve months is that the Board is now focused on addressing the underlying causes of poor or inconsistent performance, rather than simply dealing with the symptoms.'

(UHSM Annual Report 2009/10:9)

Thus whilst there appears to be no evidence to support the contention that Lean might be linked to a 'crisis', there does appear to be some evidence that a combination of 'crisis' with a Chief Executive who has an interest and/or experience of Lean may be linked to the adoption of a 'systemic' approach to Lean implementation. In summary, sections 7.3.1 and 7.3.2 presents empirical evidence that supports the contention that an organisational context of 'crisis' combined with committed leadership to Lean implementation, may be linked to the adoption of a systemic approach to Lean.

7.3.3 Cross case analysis of the emergent complexities to Lean implementation leading to research propositions that signal the influence of contextual factors upon Lean implementation in hospital Trusts

The case studies reveal a number of complexities of Lean implementation in an NHS hospital environment. These complexities appear to represent barriers to Lean implementation in some of the case studies and enabling conditions for Lean implementation in others. Table 7.5 presents a tabular summary of the barriers of Lean implementation (represented by a '×') and enablers of Lean implementation (represented as a '✓') as emergent from the case studies. Where there is no evidence that a particular context presented a barrier or enabler of Lean to the organization the cell is left blank. Cross case analysis and discussion of these identified complexities and how they present themselves as barriers in some organisations and complexities in others leads to the formulation of research propositions to explain how contextual factors influence the implementation of Lean in healthcare organisations.

Table 7.5: Cross case analysis of barriers and enablers of Lean implementation

Case Study:	UHCW	ELHT	RBH	SHK
Finance	✓	×	✓	
Key people leading change	✓	✓	✓	✓
Accountability, monitoring and metrics	× (Too much)	× (Too little)	✓	× (Too Little)
Resistance to change by management and medical consultants	×	×	×	×
Culture	×	×	✓	×
Mixed approaches to change	×	×		

7.3.3.1.1 Finance, finance, finance

One of the foremost findings of the case studies was the debilitating impact of intense financial pressure at ELHT upon Lean implementation. Three of the four Trusts perceived finance as a key driver of Lean implementation in their organisation (UHCW, ELHT and

RBH), UHCW, like RBH also perceived other drivers of Lean implementation, in particular 'quality'. ELHT respondents were by contrast resolute that the Trust had begun implementing Lean to address the financial situation with all twelve respondents perceiving finance as the driver. To quote one respondent: *"it's finance, finance, finance"*. Case studies at UHCW and ELHT present evidence that the issue of 'finance' does not motivate nurses or doctors to improve services.

ELHT differs from the other three case studies in that the pressure of finance appears to be disproportionate to all other issues making it both the instigator of a programme approach to Lean and the primary inhibitor of the approach. In the case of ELHT it could be argued that intense environmental pressure to drive financial savings has deflected energy from the system (Pettigrew and Whipp, 1991; Pettigrew et al, 1992), leaving the organisation desperately seeking a quick fix solution to the problem (Heston and Phifer, 2009). Case study data discussed in chapter 6 (section 6.4) supports this assertion; one respondent remarks: *'you could feel the walls closing in...Lean was not fast enough'* (Director of Service Improvement, ELHT).

At UHCW and RBH there was an admission that finance (i.e. the need to save money) was important, but there was no evidence that the need to save money was of pervasive influence, rather one that was managed against a backdrop of shifting political priorities and another round of 'redisorganisation' and budget cuts (Smith et al, 2001; Pettigrew et al, 1992).

Chapter 2 links financial constraints to the development of the TPS at Toyota (Cusumano, 1988; Holweg, 2007) and the implementation of Lean in public sector organisations (Radnor and Walley, 2008). Financial pressure is a prominent issue for all NHS hospital Trusts given the current government's assertion that the NHS is to operate in the context of 'severe constraint on spending' and the requirement of the NHS to deliver £10bn of savings by 2012/13 (NHS Operating Framework, 2010/11:1). However, managed skilfully, financial pressure has been shown to create a constant inertia that drives change (Pettigrew and Whipp, 1991; Tushman and Romanelli, 1985). The case study findings suggest that finance can drive Lean implementation in some Trusts, but where the pressure to make savings is intense, finance can also present a barrier to successful and sustained Lean implementation.

In their study of strategic change in the NHS, Pettigrew et al (1992) consider possible explanations of why one healthcare organisation threatened by financial pressure stalls their approach to strategic change whilst another skilfully orchestrates management to accelerate

change. The authors suggest that the use to which financial pressure is put *'depends on the prevailing distribution of power, history and assumptions of each district'* (Pettigrew and Whipp, 1992:280). Thus the commitment of leadership to the implementation of Lean may influence whether financial pressure is used to channel energy into change (as at RBH), or conversely to drain energy from change (as at ELHT). In common with sections 7.3.1 and 7.3.2, there is evidence to support the contention that when leadership commitment is combined with financial constraints a receptive context for Lean implementation occurs.

Proposition 1: Intense financial and performance pressure can channel energy away from Lean implementation, leaving leaders seeking a 'quick fix' to remedy the most pressing problems. Intense financial and performance pressure can limit the implementation of Lean.

7.3.3.1.2 Key people leading change

Case study data reveals that whilst financial pressure is an issue at RBH, it is not identified as a complexity at the Trust. At RBH it was the variability of service quality that led the Chief Executive to develop a system for service improvement. This commitment to change at the very top of the organisation, i.e. by the Chief Executive and other senior executives and medical consultants was also identified as a key driver of Lean implementation at Virginia Mason in Seattle and Flinders in Australia as described in Chapter two. Pettigrew et al (1992) suggest that the availability of key people leading change is an important factor which makes change highly contextually sensitive. Whilst RBH differs from the other three case studies in having a Chief Executive with an interest and experience in Lean implementation, a related factor is found to be the distribution of leadership engineered as a key facet of the Bolton Improving Care System (BICS). The BICS facilitators interviewed were very clear that their role was to train people through the rapid improvement events in the skills and tools necessary to enable them to lead change in their area, and not for the BICS team to be relied upon to lead change. A graduated curriculum of training in Lean involves both workplace based achievements i.e. facilitating improvement through RIES, as well as classroom based work. The training is also accessible to all staff with attainment clearly linked to promotion (Fillingham, 2008). Thus at RBH, the 'system' could perhaps be described as a method for developing key people to lead change, thereby distributing leadership so that the principles of Lean can effectively reach, and be enacted by, key individuals in the organisation. This coincides with Pettigrew et al's (1992) articulation of 'key people leading change' as pluralist

and not limited to one or two 'heroes'. The benefit of many 'key people leading change' is to facilitate a situation of continuous improvement by everybody in pursuit of perfection as dictated by the principles of Lean (Womack and Jones, 1996) and the pillars of the TPS described in chapter two.

Distributed leadership however is not a universal concept and variants can range from 'everybody in charge' to a situation where 'nobody is in charge' (Currie and Lockett, 2011). Where distributed leadership gives rise to a situation of 'nobody in charge', leadership has become fragmented among the myriad actors who are trying to enact change (Currie and Lockett, 2011). RBH avoids this situation through their clear articulation of the organisation's 'True North' goals, leaving no individual in doubt about the strategic direction of the organisation. This clarity of policy generated at a local level was also highlighted as an important receptive factor of strategic change in Pettigrew et al's (1992) study of the NHS, in particular the need to align strategic and operational change by breaking down a strategy into actionable pieces. RBH have a clear system for strategic alignment through their articulation of four clearly stated True North goals and through the use of policy deployment. This clarity and coherence of policy and goals in relation to Lean was not present in any of the other case studies; at UHCW and ELHT in particular such clarity and coherence was notably lacking. The approach of RBH towards achieving coherence of strategic goals also encompasses Pettigrew et al's (1992) receptive factor: 'simplicity and clarity of goals and priorities'. Key people leading change appears to be an important enabler of Lean implementation.

Proposition 2: A systemic approach to Lean implementation relies on a process for developing key people to lead change in the organisation, and is supported by the clarity and coherence of organisational goals.

7.3.3.1.3 Accountability Monitoring and Metrics

The issue of how to measure the impact of Lean implementation is something that was problematic for all four case studies, with only RBH able to achieve commensurability between Lean implementation and measureable outputs. Case studies ELHT and UHCW present polarised approaches to measurement: whilst ELHT is notable for its lack of benefits

measurement, UHCW is notable for its abundance of performance measures; both approaches are problematic.

Measuring impact is not of importance just at an executive level but is also important at a practitioner and participant level. As participants and their colleagues invest heavily their time and energy in these events it is important that there is a system to keep the work on track and make improvement happen and sustain. The case studies illustrate that accountability monitoring and measurement provides legitimacy for change as demonstrated by the following quote from a respondent at RBH:

> *"That's one thing that was important to staff, you know: what if it all just falls back by the wayside? But because we know there is a review process there you're not just doing a week, implementing it and then nothing ... So if there are any problems, if something is not working they are going to review it and they will be prepared to change it"* (Assistant Practitioner Stroke Therapies, RBH)

Respondents at ELHT noted that an absence of managerial support in turn created an absence of accountability which in turn led to an absence of measurement. At ELHT, the lack of accountability created what could be described as a 'legitimacy vacuum'; Lean facilitators would draw up a list of actions following improvement activity and attempt to assign these actions to others, however, with no accountability for actions and no formal follow up or monitoring and measuring of activity, there was little if any action actually followed through. Facilitators, without the backing of executive and senior managerial staff, described a feeling of powerlessness to incite change. Whilst all four case studies had developed in-house facilitators, the ability of the facilitators at ELHT to enact change in line with Lean principles was limited by their own legitimacy as key influencers of change which was directly attributed to a lack of accountability and corresponding lack of leadership commitment and managerial support for Lean. The consequence was aggrieved facilitators who were lacking in legitimacy and authority in the eyes of more senior clinicians, managers and consultants. The importance of legitimacy in inciting change is a factor that has been considered in literature relating to organizational behaviour and sociology of professions and has only recently been linked to a discussion of Lean implementation (see Waring and Bishop, 2011).

At UHCW, the Lean facilitators were not of a noticeably higher standing in terms of professional training however, they did have the visible backing of management coupled with a formal process for reporting the outcome of the activity. At RBH accountability and measurement was a key part of BICS. All formal rapid improvement events that are led by the BICS facilitators begin with an agreed 'reason for action', which is developed in collaboration with key people who are of sufficient professional status and legitimacy to lead change. These people were often called 'team leaders' for the purpose of the improvement work and these team leaders would then identify other key influencers of change (often more senior clinicians and consultants) related to the process under study in order to engage their participation in the RIE. Thus the facilitators were building legitimacy for Lean implementation through developing relationships with people who have the ability to bring about change prior to the actual RIE.

However, an overabundance of measurement and monitoring also appears to deflect energy away from Lean implementation. At UHCW we see that the sheer complexity and constancy of benefits capture, led to dispute and anxiety throughout the Trust: *'I dread those emails every week' (Administration and Performance Manager).* Despite an emphasis on benefits measurement, no respondent at UHCW could actually recall any of the specific measures of the benefits matrix, moreover, the small and immediate improvements that were embraced and carried forward by employees as a result of an improvement project were often found to be difficult to match up with the benefits matrix. The consensus of responses with non - executive staff was that baseline metrics were necessary but should be simple and easy to use, providing clear evidence of the impact of changes made at a local level.

Proposition 3: Accountability monitoring and measurement provides legitimacy for change, and is supported by the clarity and coherence of organisational goals. Clarity and coherence of organisational goals is an important enabler for Lean implementation and for measuring the impact of Lean implementation.

7.3.3.1.4 Resistance to change by Managers and Medical Consultants

The power base of professional workers remains a crucial factor in the organisational context of change (McNulty and Ferlie, 2004) and the capacity of doctors to influence the fate of change programmes within hospitals is considered significant. All four case studies identify

middle management and consultants as being resistant to change efforts. The Head of Improvement at RBH identifies the problem as relating to the organisation's 'middle layer'. In particular the Head of Improvement identifies general surgeons as having a reputation as a group despite 'buy-in' on an individual basis. Case studies UHCW and ELHT support this assertion as many respondents identified consultants and surgeons as being resistant to change, yet on an individual basis, the consultants interviewed as part of this study were highly supportive and enthusiastic about Lean implementation. This phenomena, suggests the existence of intra professional institutionalism (Currie and Suhomlinova, 2006) as a limiting context in the implementation of Lean. Respondents at ELHT, UHCW and SHK attribute such resistance to the autonomous nature of a consultant's role, which leads them to deploy various strategies that allow them to resist change (McNulty and Ferlie, 2004; Currie et al, 2008). Given the evidence of the case studies that medical consultants, surgeons and middle managers can and do champion Lean, one way of overcoming this limitation could be to develop medical consultants, surgeons and middle layers as key people to lead Lean in the organisation.

Proposition 4: Resistance to Lean implementation by professional groups can limit the implementation of Lean in healthcare.

7.3.3.1.5 Culture

At ELHT and SHK a particular problem was expressed regarding 'culture'. At ELHT the cultural divide was portrayed as an 'us and them' culture between two hospital sites that had recently merged. Despite the merger occurring in 2003, respondents perceived a reluctance to adopt new ways of thinking and working. The merge correspondingly led to a change in the operational nature of the sites where one became a 'hot' site receiving emergency work and the other receiving 'cold' work, i.e. elective surgery. This service change coincided with a drop in A&E performance. Referring to 'culture' as a set of *"deep seated assumptions and values far below surface manifestations (who gets to park in front of the hospital?), officially espoused ideologies, or even patterns of behavior"*, Pettigrew and Whipp (1991) go on to assert: *"the past weighs a heavy hand in shaping these values, setting expectations about what is and what isn't possible"* (p.281). SHK present an example of how the persistence of such 'below the surface manifestations' and power differentials can inhibit improvement activity and change. Doctors working in ophthalmology at SHK were invited to attend the

rapid improvement event observed by the researcher however all of them had refused. When pressed about managerial control of doctors' activities and involvement, the researcher was told that the situation needed to be handled very delicately; ultimately the Directorate Manager for Ophthalmology appeared to assert no control over the doctors' behaviour who collectively and routinely turned up late for clinics. In an informal discussion, the Directorate Manager for Ophthalmology highlights the prevailing influence of the Trust's roots as a 'cottage hospital'. By 'cottage hospital' the respondent was referring to the small size of the hospital and the prevailing traditional power and jurisdiction of medical consultants (Currie and Suhliminova, 2006).

Pettigrew and Whipp (1991) cite the assertion of Lorsch (1986) that developing a supportive organizational culture is about challenging and changing beliefs about success and how to achieve it. Thus in the example of implementing Lean in hospitals, it is about hospital doctors looking beyond their own work and expertise and seeing themselves as part of a wider process engaged in delivering patient care. An example of this occurrence was recited by the Head of Productivity Improvement at UHCW:

> "a senior consultant came at the beginning of an improvement workshop and announced: *"this is all a load of rubbish, there's no point in mapping the process. This is the solution and that's what we need to do".* By the middle of the week the consultant came up to me and said: *"This is great! I never understood before, I only ever saw my bit of it".*

The above example suggests that culture (even the mindsets of medical consultants), can be changed and systematic practices and tools can be useful in this endeavour.

Proposition 5: The systematic use of Lean practices and tools over time can build consensus for change.

7.3.3.1.6 Mixed approaches to change vs clear and coherent strategy

Of the case studies, UHCW and ELHT had clearly adopted multiple approaches to change whilst SHK were using Lean as more of a 'tool' for service improvement alongside other tools such as computer based simulation. At UHCW in particular, a 'mixed methods'

approach appeared to deliver 'mixed messages' about the organisation's strategy which left some people in the Trust confused and frustrated and some aspects of improvement work were duplicated. At both UHCW and ELHT there were incidents in which external management consultants would deliver recommendations for improvement that appeared to trump internal investigations and recommendations even though they were often very similar. This 'mixed approach' method had a clear impact on the internal change team at UHCW, leaving the Head of Productivity Improvement feeling as though someone had *'moved the goal posts'*. Ultimately, a lack of clear and coherent strategic direction was causing friction, frustration and feelings of vulnerability in the internal change team and preventing a system wide approach to Lean.

Proposition 6: Clear and coherent strategic direction facilitates a systemic approach to Lean implementation.

7.4 Comparison of barriers and enablers of Lean with Pettigrew et al's (1992) receptive contexts for shaping strategic change in the NHS in the 1980's

Section 7.3.1 discusses the barriers and enablers of Lean implementation emergent from a cross case analysis of complexities identified through case study analysis. The discussion identifies a number of similarities between the receptive contexts identified as important to shaping strategic change in the NHS in the 1980's by Pettigrew et al (1992). The enabling contexts are found to be interrelated, echoing Pettigrew et al's assertion: *'not a shopping list, but a highly interrelated combination'* as evidenced by the emergent research propositions. Table 7.6 presents a comparison of the enablers of Lean implementation and corresponding research propositions emergent from the case studies (as discussed in section 7.3.3.1) with Pettigrew et al's (1992) description of 'receptive contexts' to ascertain their relevance today in providing a logic and narrative to explain the processes of strategic change.

Table 7.6 Alignment of Pettigrew et al's (1992) receptive context with barriers and enablers identified from case studies

Receptive contexts of strategic change in the NHS in the 1980's identified by Pettigrew et al, (1992)	Summary of evidence based on Pettigrew et al, (1992)	Alignment with barriers and enablers identified by research	Are the receptive contexts of strategic change in the NHS in the 1980's still relevant (yes/no)
Feature 1: The Quality and Coherence of Policy-Analytic and Process Components	'The most robust strategies considered questions of coherence between goals, feasibility & implementation requirements and the need to complement service strategies with other functional strategies' (p.28)	The research finds evidence that the clarity and coherence of organisational goals is an important enabler for Lean implementation across the organisation (systemic approach to Lean). Quality and coherence of goals impacts the ability to measure the impact of Lean implementation, provides legitimacy for change and develops key people to lead change. (see propositions 2, 3 and 6).	Yes
Feature 2: Availability of Key People Leading Change	'The availability of key people in critical posts leading change...the small group as much as the individual – could be an effective vehicle so team building could be important' (p.28)	Whilst the research finds evidence that leadership commitment from the Chief Executive is highly important, the case study RBH emphasises the training of its entire staff and the ongoing development of people to lead change in the organisation through a graduated train programme linked to promotional progression in the Trust (see proposition 2).	Yes
Feature 3: Environment pressure – Intensity, scale and Orchestration	'in some instances excessive short term pressure can deflect or drain energy out of the system. In other cases environmental pressure can produce movement, perhaps where it is moderate or stable in nature or where the pressure is skilfully orchestrated' (p.29)	The case study ELHT illustrates a situation where excessive short term pressure has deflected energy from the system whilst RBH presents an example of pressure being used to skilfully orchestrated (see proposition 1).	Yes

Receptive contexts of strategic change in the NHS in the 1980's identified by Pettigrew et al, (1992)	Summary of evidence based on Pettigrew et al, (1992)	Alignment with contingencies of context identified by research	Are the receptive contexts of strategic change in the NHS in the 1980's still relevant (yes/no)
Feature 4: Supportive Organisational Culture	'a supportive organisational culture may be about challenging and changing beliefs about success and how to achieve it...tremendous energy is required to effect real change' (p.29)	Case studies ELHT and SHK exemplify the impact of a lack of a supportive culture, as does UHCW to a lesser extent, (see proposition 6).	Yes
Feature 5: Effective managerial/Clinical relations	'The nature of the managerial/clinical interface was critically important...when clinicians had gone in to the opposition, they could exert a powerful block to change' (p.30).	Resistance by manager and/or medical consultants was identified as a complexity in all four case study Trusts that could limit Lean implementation (see proposition 5).	Yes
Feature 6: Co-operative Inter-organisational Networks	'management of inter-organisational networks developed with such agencies as social services departments and voluntary organisations' (p.30)	There is no evidence of such networks being developed in relation to Lean implementation or that the absence of the networks are currently limiting Lean within organisations. However, the importance of developing such networks should not be ruled as an important factor of systemic Lean implementation, it may be that the case studies presented here had not yet reached this stage of implementation.	Maybe
Feature 7: Simplicity and Clarity of Goals	'This focussing issue arises from the conclusion that managers varied greatly in their ability to narrow down the change agenda into a set of key priorities...the danger was that the number of 'priorities' would escalate until they become meaningless' (p.31).	We see the effect of too many priorities at UHCW where a benefits matrix of over 200 measures leaves manager bewildered and unable to recall the measures. RBH employs its four True North goals to simplify goals and provides a means for translating organisational strategy into operational improvement goals (see propositions 2 and 6).	Yes but could be amalgamated with feature 1:**'The Quality and Coherence of Policy-Analytic and Process Components'**
Feature 8: The Fit Between the Change agenda and the Locale	The nature of the locale has an impact on how easy it is to achieve change, for example, whether there is one large centre of population or two or more major towns with	The case studies produce no evidence of an influence of the locale upon Lean implementation.	No.

	a tradition of rivalry; the nature of the local workforce, the strength and nature of local political culture and whether there is a teaching hospital presence.		

Table 7.6 highlights the many similarities between the receptive contexts of strategic change in the NHS during the 1980s as identified by Pettigrew et al (1992) and the contextual factors influencing Lean implementation in NHS Trusts today as identified in this study. Of the eight receptive contexts outlined in Pettigrew et al (1992), six of them resonate with the complexities of Lean implementation highlighted in the case study findings of this study (see table 7.6). The probable reason for the absence of co-operative inter-organisational networks in relation to Lean implementation is related to the time frame of developing a systemic approach to Lean. Lean is something that needs to be developed over many years gradually extending outside of the organisation to include aspects of the patient pathway outside of the organisation. This does not appear to be something that English hospitals have yet managed to achieve. The second factor that does not resonate with the study findings is: 'the change agenda and its locale', meaning the fit between the hospitals change agenda and the local community. This is not something that appeared to have any bearing on the implementation of Lean in this study. This point of difference may reflect the change in the structure of the NHS since 1992 when hospitals were operated as district general hospitals that could result in a conflict of objectives in one hospital community over another. Since then, district hospitals have merged with management of hospitals converging at a level of a hospital 'Trust' which may manage a number of hospitals under the same executive management.

7.5 Summary and implications for research

This chapter has evaluated the implementation of Lean as evidenced via discussion of document analysis data, quantitative data, case study data and cross case analysis. In taking a mixed methods approach, this thesis has afforded an in depth insight into the implementation of Lean from multiple viewpoints facilitating the development of new insights relating to the implementation of Lean in hospitals which may be generalizable across other service settings.

Section 7.1 finds support for the existence of divergent approaches to Lean implementation in English hospitals as identified by document analysis and validated via case study analysis. The emergent typology of divergent approaches has applicability to any organisation implementing Lean and offers a more nuanced view of Lean implementation than the extant literature currently permits.

Section 7.2 balances the findings of chapter 5 that there is no quantitative support for the impact of Lean implementation upon performance, against evidence from the case studies that Lean does improve performance at a local level. The case study data develops a more detailed picture of the impact or 'content' of Lean implementation at a local level suggesting that whilst there is no quantitative evidence to suggest that Lean implementation is improving hospital performance at an organisational level, there is encouraging evidence that Lean is having an impact at a more localised level. This can be symptomatic of the necessary time lag between implementing Lean and the time necessary to build momentum across the organisation before it becomes *'the way we do things around here'.* The finding is also likely to be symptomatic of the findings of chapter 4 that the majority of Trusts are taking a 'few projects' approach and thus the impact of Lean is likely to elicit pockets of best practice at best (Towill and Christopher, 2005; Waldman and Schargel, 2006; Proudlove et al, 2008; Radnor and Walley, 2008).

Section 7.2 also notes the difference between a subjective evaluation of the impact of Lean upon performance that incorporates intangible improvements in staff morale and patient satisfaction at a local and operational level for example, and an objective evaluation which measures the impact of Lean according to externally derived performance measures at the level of the whole organisation as another factor that might account for the discrepancy between quantitative analysis and qualitative analysis with regards to the impact of Lean implementation on performance . However, the Chief Executive of RBH asserts that even after six years of implementing Lean across the organisation, the approach has yet to impact on the 'bottom line'. Thus, this thesis presents quantitative and qualitative evidence in support of the contention that Lean is not a silver bullet solution that will suddenly solve all problems (Heston and Phifer, 2009). Achieving improved organisational performance through Lean implementation requires a very long term commitment, where Lean is adopted and embedded in an organisation as a way of life.

Section 7.3 addresses research question three to consider the relationship between the context of the hospital Trust and (the approach to) Lean implementation; the discussion presents empirical evidence of the influence of leadership commitment upon Lean implementation. Section 7.3.1 highlights leadership commitment as a unique driver of Lean implementation at RBH.

Section 7.3.2 examines whether there is any relationship between the approach to Lean inferred by document analysis and organisations who are facing crisis. The data revealed no pattern of Lean implementation in correlation with a 'crisis' except in the instance where a new Chief Executive had brought experience of Lean implementation into the organisation, (see case 49, Volume II). Thus, in conjunction with the extant literature described in chapter 2 and the comparison of three experiences of Lean implementation in America, Australia and the UK, the empirical data presented in this thesis offers support for the contention that leadership commitment (where combined with performance issues) is an important influencing context in relation to a systemic approach to Lean implementation.

Section 7.3.3 presents a cross case analysis of the complexities to Lean implementation as articulated by case study respondents. The complexities represent both barriers and enablers of Lean implementation; the research finds that whilst one contextual factor, for example 'financial pressure', may inhibit Lean implementation in one organisation, the same context might create an enabling context for Lean implementation in another organisation. As Pettigrew and Whipp (1991) note, contextual factors are not static; in particular the leadership in NHS Trusts are shown to be subject to frequent change in some NHS Trusts (see: Hogget-Bowers, 2009). At UHCW, we see how a change in leadership can quickly diminish leadership commitment to a particular improvement approach. In summary, cross case discussion of the emergent barriers and enablers of Lean implementation gives rise to the following research propositions as indicators of the influence of contextual factors upon the implementation of Lean in hospital Trusts:

> **Proposition 1:** Intense financial and performance pressure can channel energy away from Lean implementation, leaving leaders seeking a 'quick fix' to remedy the most pressing problems. Intense financial and performance pressure can thereby limit the implementation of Lean.
>
> **Proposition 2:** A systemic approach to Lean implementation relies on a process for developing key people to lead change in the organisation (such as training in Lean linked to promotion), and is supported by the clarity and coherence of organisational goals. Key people leading change is an important enabler of Lean implementation.

Proposition 3: Accountability monitoring and measurement provides legitimacy for change, and is supported by the clarity and coherence of organisational goals. Clarity and coherence of organisational goals is an important enabler for Lean implementation and for measuring the impact of Lean implementation.

Proposition 4: Resistance to Lean implementation by professional groups can limit the implementation of Lean in healthcare.

Proposition 5: The systematic use of Lean practices and tools over time can build consensus for change.

Proposition 6: Clear and coherent strategic direction facilitates a systemic approach to Lean implementation.

Finally, section 7.4 compares these complexities to the findings of Pettigrew et al (1992) to consider the identification of receptive contexts as a logic and language for understanding the processes of Lean implementation in the NHS. In summary, chapter 7 presents evidence that context does appear to influence Lean implementation and that enabling contexts of Lean implementation align with six out of eight of Pettigrew et al's (1992) receptive contexts for strategic change in the NHS.

Chapter 8: Conclusions

8.0 Chapter Summary

This chapter presents the conclusions of this research study. The aims of this chapter are: (1) to briefly summarise the approach taken to evaluate the implementation of Lean in healthcare; (2) to make clear the overall contribution to knowledge made by this research; (3) to provide a summary of the limitations of this study, and (4) to provide recommendations for future research.

8.1 Introduction

This thesis set out to evaluate the implementation of Lean in English hospitals. Following a review of the extant literature, three specific research questions were identified and research methods developed to address them. The research questions and a brief description of the findings are presented below:

RQ1. Can different approaches to Lean implementation be characterised in English hospitals?

RQ2. Is there any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level?

RQ3. Is there a relationship between the context of the hospital Trust and (the approach to) Lean implementation?

Using a mixed method approach combined as part of a constructivist paradigm described in chapter 3, the thesis offers three key contributions to knowledge: (1) a typology of approaches to Lean implementation; (2) quantitative evidence that Lean is not (yet) improving organisational performance; (3) a set of propositions that provide a narrative and logic to explain the influence of context upon the process of Lean implementation.

8.2 Contributions to knowledge

The research provides a contribution to knowledge in three key areas: firstly through the identification and validation of a typology of approaches to Lean implementation by English hospital Trusts; secondly through quantitative analysis and discussion of the potential link between Lean implementation and increased performance; and thirdly a set of propositions that provide a narrative and logic to explain the influence of context upon the process of Lean implementation.

8.2.1 A typology of approaches to Lean implementation

In response to findings of chapter two, i.e. that the majority of the literature details small localised Lean projects coupled with the assertion that Lean implementation in healthcare is generally fragmented and tool based, i.e. not 'real Lean' (Emiliani, 2008), the first research question sought to ascertain which English hospitals were implementing Lean, followed by an analysis of how Lean was being implemented. Using document analysis, the research found evidence that Lean was widespread and rapidly increasing in English hospitals. The key findings are:

- During the operating year 2007/08 (T1), a count of 80 acute general hospital Trusts (53%) in a study population of 152 English hospitals articulated an implementation of Lean in their annual reports and/or on their corresponding websites.

- During the operating year 2009/10 (T2), 111 Trusts in a study population size of 143[17] hospital Trusts (78%) articulate an implementation of Lean in their annual reports and/or on their corresponding websites.

Within the document analysis data, differences emerge between one approach to Lean and another. These differences are characterised primarily by the scope and structure of Lean implementation in the Trust from a 'tentative' approach where members of the Trust are finding out about Lean, through to a 'systemic' approach where the whole Trust has embraced Lean as *'the way we do things around here'*. Figure 8.1 replicates the typology of

[17] 143 hospital Trusts were identified in 2009/2011 following mergers between hospitals during the period 2008-2009.

chapter four to illustrate the characterisation of the emergent approaches to Lean implementation.

Figure 8.1: Typology of approaches to Lean implementation

Tentative – Trust staff are contemplating Lean; there may be evidence of a pilot project in the annual report or staff magazine, or a tender for external management consultancy to help with implementation identified in archival documents available on the Trust website.

Productive Ward Only (PW only) – The annual report or website highlights the implementation of Productive Ward and/or Productive Theatre but no other evidence of Lean implementation is identified. The 'Productive Ward' is a structured programme of work devised by the NHS Institute for Innovation and Improvement (NHSIII) that has been rolled out nationally. Annual reports (or websites) that reference the use of a 'productive' but presents no other evidence of Lean implementation are categorised as 'PW only'.

Few projects – The annual report or website describes one or more projects in the Trust that involves the implementation of Lean principles and methods. The projects tend to be functional, based in departments and do not appear to be linked in any way to a programme of improvement that focuses on processes across the whole organisation or across specific pathways.

Programme – The annual report or website identifies the use of Lean principles underpinning work programmes that cross the organisation and patient pathways and is expected to last between one and five years.

Systemic – The annual report or website refers to the process of embedding Lean principles in the Trust as a whole so that it becomes 'the way we do things around here'. This is often identified as part of the Chief Executive's statement in the opening pages of an annual report. A systemic implementation also emphasises Lean training for all staff and there is evidence of a long term commitment to Lean.

Using the typology, the research was able to differentiate one Trust's approach to Lean from another. Analysis reveals that the approach to Lean implementation varies across the population of English hospital Trusts as illustrated in Figure 8.2:

Figure 8.2 Approaches to Lean by English hospital Trusts

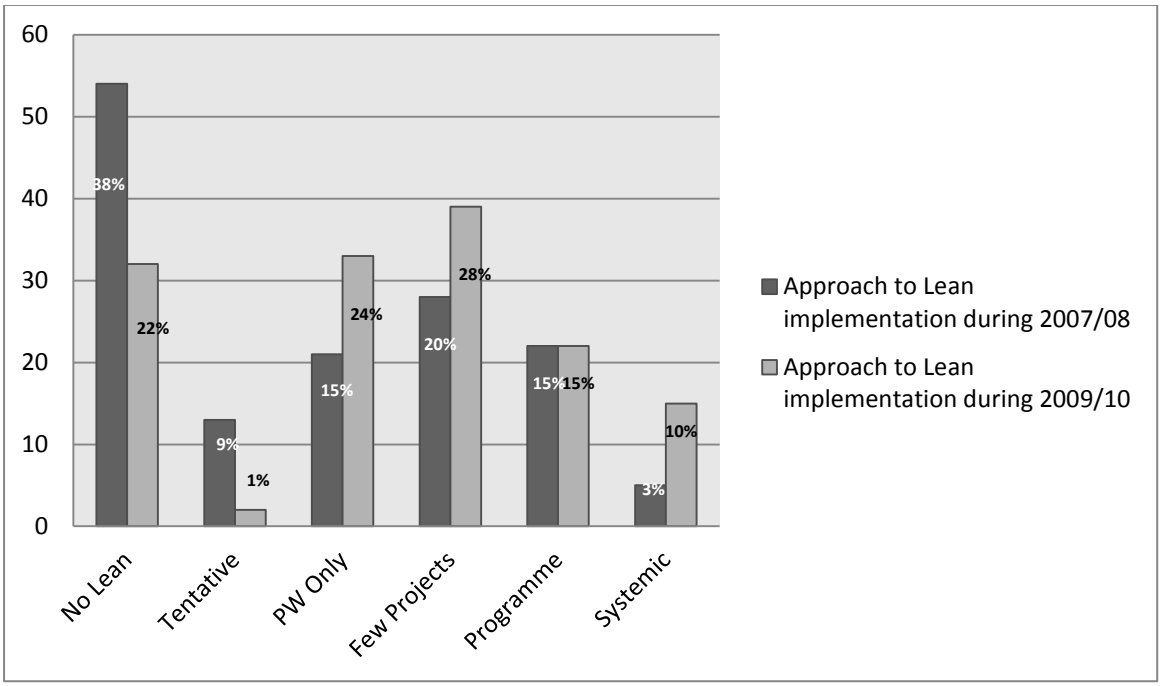


Figure 8.2 illustrates the increasing popularity of all approaches to Lean, alongside a corresponding decrease in the number of hospitals who fail to articulate an implementation of Lean in their Annual Reports or on their websites (categorized as 'No Lean'). Overall, figure 8.2 identifies 'PW only' and a 'few projects' approach as the predominant approach to Lean implementation by English hospitals supporting the contention of a number of authors that Lean implementation in healthcare is predominantly fragmented and tool based (Young and McClean, 2008; Proudlove et al, 2008; Radnor and Walley, 2008; Balle and Regnier, 2007). However the findings also portray a more optimistic picture where an increasing number of hospital Trusts appear to be adopting a systemic approach to Lean implementation.

The research further illustrates how the typology can be used as a basis to consider the trajectory of Lean to trace how Lean develops over time and to consider whether there is evidence of a sequence of implementation for example from a 'few projects' approach to a programme approach and then a systemic approach to Lean. The research suggests that across the time period T1 to T2 (2007-2010), there is evidence that hospital Trusts are 'advancing' their implementation of Lean, i.e. moving from a 'few projects' to a 'programme' for example, however there is no clear evidence of a linear trajectory, rather the journey appears to be nuanced and contingent on contextual factors.

8.2.2 Validation of a Typology of approaches to Lean implementation

Three of the four case studies were found to be taking an approach to Lean implementation that reflected the approach inferred by the document analysis data; unfortunately case study analysis at ELHT found that Lean implementation had stalled.

Thus whilst the case study data largely supports the allocation of categories via inference from document analysis (as described in chapter 3), the method provides a snapshot of Lean implementation at a single point in time and should not be considered a robust indicator of the approach the Trust has ultimately taken.

Cross case analysis provides more in-depth analysis of the 'process' of Lean implementation. The case studies revealed the contrast between the different approaches to Lean implementation adopted by the case study Trusts. RBH was notable for being the only Trust for developing a 'system' for implementing Lean, whilst the other three case study Trusts had adopted a multiple method approach. The key difference between a 'systemic' approach and the approaches of the other three case study Trusts were found to centre upon the degree of commitment to Lean as evidenced in three main ways. First, 'alignment between organizational strategy and the operation', where RBH's systemic approach demonstrates alignment of operational activity and improvement work with organizational strategy via the Trust's clearly stated 'True North' goals and its commitment to policy deployment. Articulation of the True North's ensures that all improvement activity is aligned to the True North at every level of the Trust, whilst policy deployment engaged managers at all levels of the organization in linking improvement activities at a divisional and unit level to the organization's strategic goals. Second, 'commitment to staff training'. RBH was the only Trust to have adopted a rigorous approach to training in Lean principles and methods that were accessible to all staff and mandatory for all new staff. Training at the other three Trusts was very limited in comparison. Third, a 'rigorous application of tools and principles' in a systematic manner differentiated RBH from the other three Trusts who used a very select few tools, predominantly RIE's and value stream mapping. In summary, the degree of strategic alignment, commitment to staff training and rigorous application of tools differentiated the approaches to Lean implementation.

8.2.1.1 Implications for research

The identification of a typology of divergent approaches to Lean implementation is an important contribution to existing knowledge for three key reasons: first, it provides a way of distinguishing one approach from another; second it facilitates a more detailed explanation of why successful Lean implementation has been inconsistent (Boyle et al, 2011); and third, it allows a tracking of Lean implementation over time. This is important given Corbett's (2007) assertion that the distinguishing factor going forward will be the method of implementation. As a baseline for tracking the approach to implementation over time, researchers will also be able to make informed judgements about the trajectory of Lean implementation, the sustainability of Lean and potentially observe a pattern or sequence of Lean implementation over time.

Further, whilst the typology has emerged from analysis of hospital documents, it is anticipated that the typology of approaches may be generalizable to all organisations and sectors, particularly other public sector organisations.

8.2.1.2 Limitations of research

Further iterations of document analysis may help us to ascertain the sustainability of Lean over time and whether sustainability is linked to certain categories of approach. The potential limitation of this approach lies in the popularity of Lean in the NHS which may mean that the concept of Lean will become orthodox over time and thus hospitals will become less likely to attempt to differentiate themselves in terms of Lean implementation in their Annual Reports and on their websites. However, the document analysis data collected as part of this study may still prove important for future research as it serves as a reference to a point in time and can enable researchers to select case studies according to their approach to Lean implementation.

8.2.3 Quantitative analysis and discussion of the potential link between Lean implementation and increased performance

Building on the typology presented in chapter four, chapter five uses non-parametric testing to consider whether there is any quantitative evidence to suggest a relationship between the approach to Lean implementation and improved organisational performance. In summary, the findings reveal no quantitative support for a relationship between improved performance at an organisational level and Lean implementation.

Case study analysis, in congruence with the literature, illustrates that there are many benefits of Lean implementation but that they are more likely to be felt at a localised level of the organisation than at an organisational level. The case studies reveal support that Lean does improve performance at a local level. This is apparent even at ELHT where Lean had reportedly stalled. Case study analysis suggests that a 'few projects' approach or a 'programme' approach to Lean can achieve a level of 'basic stability' (Balle and Regnier, 2007); if sustained it may be that such an approach can develop over time into a systemic approach, however there is no evidence to support this contention yet.

The discrepancy between the impact of Lean at an organisational level and the perceived impact of Lean at a localised level might be explained in a number of ways. First, the majority of Trusts are not taking a 'systemic' approach to Lean, thus as the literature suggests, Lean implementation in hospitals is generally patchy (Young and McClean, 2008), fragmented (Proudlove et al, 2008), piecemeal (Balle and Regnier, 2007) and potentially producing a negative impact on the system as a whole (Towill and Chrtistopher, 2005; Waldman and Schargel, 2006). At best, it is argued, a disjointed approach to Lean implementation will deliver 'islands of optimisation' and pockets of best practice (Holweg and Pil, 2001; Radnor and Walley, 2008). Given the assertions of the literature coupled with evidence that the majority of hospital Trusts are not implementing Lean as a system, it is perhaps not surprising that Lean cannot be linked to improved organisational performance.

A second point relates to the difficulty in capturing and measuring the benefits of Lean at an organisational level as illustrated by the case studies. The ability to capture and measure improvements is shown to be important for sustaining Lean implementation as well as communicating the improvements upwards to managers and senior executives. Failure to capture the benefits of Lean can lead to Lean stalling in the Trust as evidenced at one case study Trust (ELHT). Aligned to this, the research highlights a discrepancy between

subjective measures of improvement as attributed via case study analysis and objective measures as attributed via the Care Quality Commission performance scores. Whilst the CQC performance scores were reliable in that their consistency allows for comparison across Trusts, their usefulness as a measure of performance might be brought into question (Harvey et al, 2009). Authors Boyne (2003) and Politt & Bouckaert, (2004) summarise the situation as highly contestable, asserting that any search for a definitive set of variables to explain change in public services is likely to end in disappointment as such variables are too diverse, complex and above all dependant on socio-economic, cultural and political contextual factors at play for a unifying theory to be constructed.

8.2.3.1 Implications for research and practice

This research provides a novel analysis of a nuanced picture of Lean implementation (characterised as divergent approaches), alongside national performance measures. The analysis reveals no firm evidence that Lean implementation improves performance at an organisational level. Thus the research supports the contention that Lean should not be adopted as a 'magic bullet' solution to organisational performance issues. The Chief Executive of RBH asserts that after six years of implementing Lean the organisation is only just starting to see the impact of a systemic approach to Lean implementation on the 'bottom line'; thus organisations implementing Lean in order to make short term financial savings are likely to fail in their endeavour, as illustrated by ELHT. In summary, the impact of Lean upon organisational performance should be measured at a local level in the short to medium term and should include subjective views of impact as well as more objective measures.

8.2.3.2 Limitations of research

The research methods rely on two types of data: one that is emergent from document analysis where the approach to Lean implementation is inferred by the researcher and the second data is a composite performance score described by academic commentators as 'highly contestable' (Politt & Bouckaert, 2004). Thus the extent to which an accurate analysis of both a Trust's approach to Lean and the performance of a hospital Trust is reliant upon these two measures. However, every attempt has been made to ensure the transparency of the process employed by the researcher to infer the approach to Lean by all hospital Trusts (see

chapter 3 for a description of the process rationale for coding). Similarly, the Care Quality Commission (CQC) offers clear descriptions of how their scoring process is conducted as discussed in chapter 3.

8.2.4 A set of propositions that provide the basis of a narrative and logic to explain the influence of context upon the process of Lean implementation

Chapter two highlights the frequent reference to 'context' in relation to the development of the Toyota Production System (TPS), later to be known as Lean. The TPS is considered to have developed in response to a difficult economic environment in Japan (Holweg, 2007; Cusumano, 1988). Similarly, in the public sector, a rise in Lean implementation has been attributed to the call for efficiency gains in the public sector in reports such as the Gershon Review (2004) (Radnor and Walley, 2008). The call for efficiency gains continues to pervade the political and economic environment as the current coalition government asserts that the NHS is to operate in the context of 'severe constraint on spending' coupled with the requirement of the NHS to deliver £10bn of savings by 2012/13 (NHS Operating Framework, 2010/11:1). Chapter 2 summarises the influence of context at three levels:

i. External environmental context: Economic and political influences.

ii. Internal environmental context: Organisational crisis and leadership commitment.

iii. Individual context: Resistance to change by management and medical consultants.

Cross case analysis supports the contention that the implementation of Lean is influenced by contextual factors. Economic and political influences create an environmental context that determines the Trusts priorities, both financial and performance related. For example, respondents at one case study (SHK) admit that 'excellent' performance scores for both 'quality of service' and 'use of resources' awarded to the Trust by the CQC provide Doctors with a justification to resist involvement with projects to improve performance; the main driver for Lean implementation at SHK was 'quality', from the patients perspective and from the perspective of staff morale. At ELHT we see the other extreme where the Trust is facing financial difficulties leading to an over intensification of environmental pressure; here quality is not mentioned by any respondents as a driver for Lean implementation. This over-

intensification of financial pressure was found to deflect energy from the system (Pettigrew and Whipp, 1991; Pettigrew et al, 1992) and Lean consequently stalled.

The current financial climate for all NHS Trusts is referred to as one of 'severe constraint', thus successful NHS Trusts will be those who manage skilfully the financial pressure to create a constant inertia that drives change (Pettigrew and Whipp, 1991; Tushman and Romanelli, 1985). Failure to do this can leave an organisation desperately seeking a quick fix solution to the problem (Heston and Phifer, 2009).

The differentiating context between the four case studies was found to be at an individual level, where a new Chief Executive with an interest in Lean combined with a number of organisational 'performance fires' is identified as a driver of Lean implementation in the Trust. This contention is explored further in section 7.2 where analysis of Trusts who are facing a 'crisis' in T1 and/or T2 (i.e. the Trust is in breach of its terms of authorisation), reveals that a 'crisis' is only linked to the implementation of Lean when combined with a new chief executive with experience of Lean implementation in another Trust. This supports the findings of chapter 2, (section 2.9.2), that identifies the combination of 'crisis' and leadership commitment as a common denominator of context across the three published case studies of ostensibly systemic implementation of Lean in hospitals in the US (Bohmer and Ferlins, 2006), Australia (Ben-Tovim et al, 2007) and the UK (Fillingham, 2007, 2008). Thus the findings suggest that the combination of performance issues with leadership commitment might be a key contextual factor for a systemic approach to Lean. This is perhaps something that could be explored further over time.

A more detailed cross case analysis of the emergent complexities of Lean implementation (see section 7.3.3) considers what contextual factors influence Lean implementation in English hospitals; these are compared to Pettigrew et al's (1992) receptive contexts of strategic change in the context of the NHS in the 1980's. Complexities of Lean implementation emergent from cross case analysis are presented as barriers and enablers to Lean implementation and are used to form the basis of six research propositions that are intended to develop a narrative and logic for the implementation of Lean in hospital Trusts. The research propositions based on the findings and analysis of this research are:

Proposition 1: Intense financial and performance pressure can channel energy away from Lean implementation, leaving leaders seeking a 'quick fix' to remedy the most pressing

problems. Intense financial and performance pressure can thereby limit the implementation of Lean.

Proposition 2: A systemic approach to Lean implementation relies on a process for developing key people to lead change in the organisation (such as training in Lean linked to promotion), and is supported by the clarity and coherence of organisational goals. Key people leading change is an important enabler of Lean implementation.

Proposition 3: Accountability monitoring and measurement provides legitimacy for change, and is supported by the clarity and coherence of organisational goals. Clarity and coherence of organisational goals is an important enabler for Lean implementation and for measuring the impact of Lean implementation.

Proposition 4: Resistance to Lean implementation by professional groups can limit the implementation of Lean in healthcare.

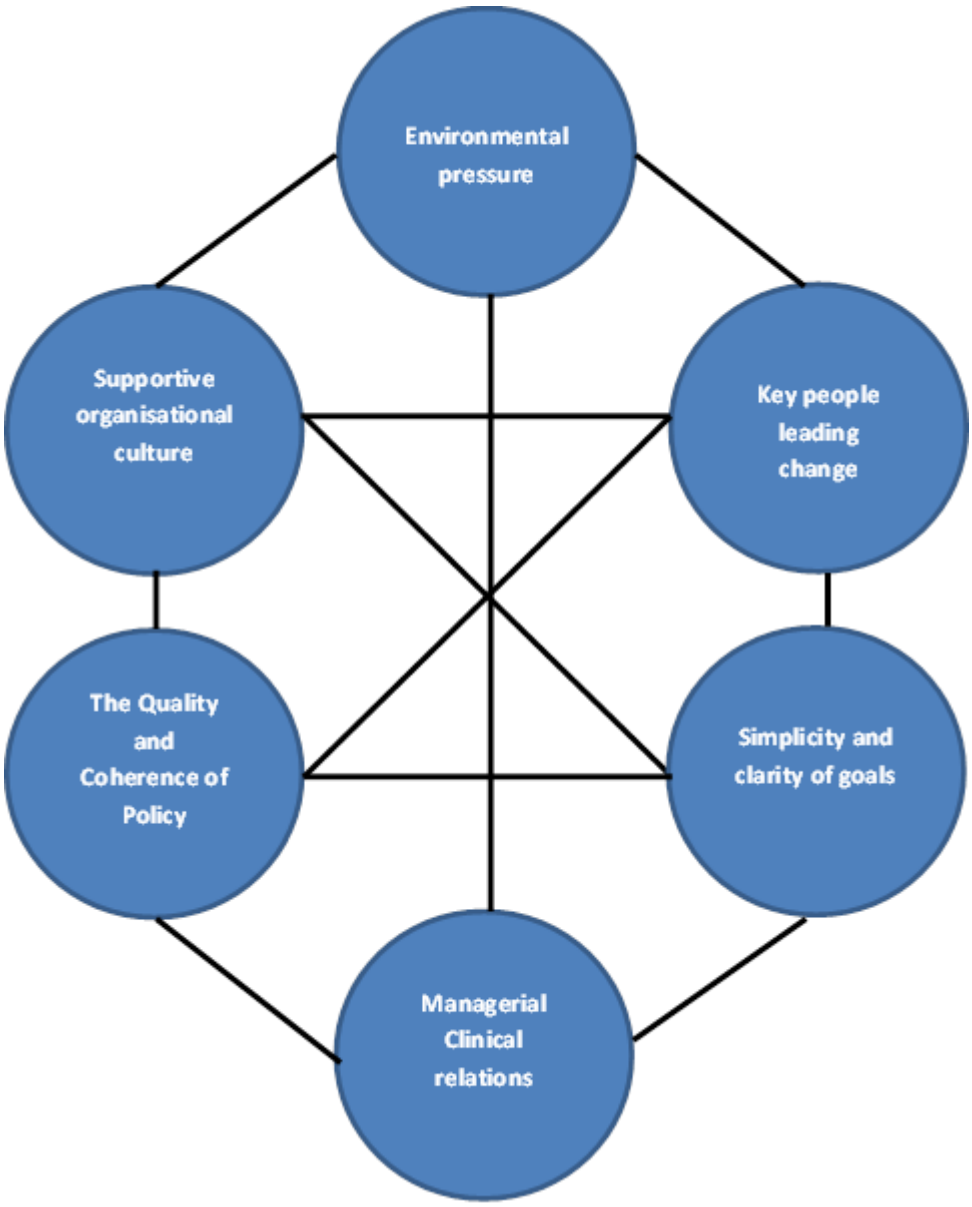
Proposition 5: The systematic use of Lean practices and tools over time can build consensus for change.

Proposition 6: Clear and coherent strategic direction facilitates a systemic approach to Lean implementation.

The six research propositions outlined above align with six of Pettigrew et al's (1992) receptive contexts of strategic change. Analysis of the enabling contexts of Lean emergent from cross case study analysis supports the continued relevance of Pettigrew et al's (1992) receptive contexts as a narrative and logic for the process of change with two notable exceptions: co-operative inter-organisational networks, and the change agenda and its locale. The probable reason for the absence of co-operative inter-organisational networks in relation to Lean implementation is thought to be related to the time frame of developing a systemic approach to Lean. Lean has been shown to require nurturing and development over a number of years gradually extending outside of the organisation to include aspects of the patient pathway outside of the organisation. This does not appear to be something that English hospitals have yet managed to achieve, as document analysis suggests that the majority of NHS Trusts in England are adopting a few projects approach to Lean implementation. The second factor that does not resonate with the study findings is: 'the change agenda and its

locale', meaning the fit between the hospital's change agenda and the local community. This is not something that appeared to have any bearing on the implementation of Lean in this study. This point of difference may reflect the change in the structure of the NHS since the 1980's when hospitals were operated as district general hospitals that could result in a conflict of objectives in one hospital community over another. Since then, district hospitals have merged, with management of hospitals converging at a level of a hospital 'Trust' which may manage a number of hospitals under the same executive management. Figure 8.3 adapts Pettigrew et al's receptive contexts of strategic change to reflect the six receptive contexts of Lean implementation as defined by this research.

Figure 8.3 Receptive contexts for Lean implementation in the NHS (adapted from Pettigrew et al, 1992)



In summary, the analysis identifies six receptive contexts of Lean implementation in the NHS rather than the eight receptive contexts put forward by Pettigrew et al (1992). The research findings also support the interrelatedness of the contextual factors as demonstrated by the research propositions that emerge from cross case analysis.

8.2.4.1 Implications for practice and research

Lean as a 'management system' is something that was made clear in Ohno (1988), however the 'system' is frequently considered 'mysterious' and beyond our understanding (Osono, 2008; Taylor and Taylor, 2009). The research propositions that emerge from analysis of the research findings present the basis for a logic and narrative to explain the influence of context upon Lean implementation in healthcare and in other public sector organisations.

8.2.4.2 Limitations of research

The case studies employed semi-structured interviews to elicit a more detailed picture of the context, process, and content of Lean implementation through the experiences of those working in the organisation. This aspect of the research was successful in creating a greater depth of understanding in relation to the implementation of Lean that, in the view of the researcher, surpasses the extant literature. However the case study research does contain two important limitations. First, only four case studies were conducted and only three approaches to Lean were evaluated. This represents just 4% of the overall sample used for document analysis. The research findings would be strengthened if the number of case studies had been increased to at least match the number of approaches to Lean implementation (including a case study of a Trust adopting a 'no lean' approach), and preferably to provide more than one case study for each approach. However, to have increased the number of case studies in this way would have been beyond the scope of doctoral research. Second, interviews within hospital Trusts were limited to those people having been involved with Lean implementation and thus the views and experiences of those who have not been directly involved in the activity are not represented. Further research might look at the perception of Lean implementation from the view of those on the periphery of the activity i.e. where improvement affects their working lives but where they may feel they have not been

involved. These perceptions may shed further light on the barriers to Lean implementation and sustainment at a localised level.

8.3 Further research

The research analysis culminates with a set of research propositions that collectively provide a basis for understanding the implementation of Lean implementation in healthcare. Further research is needed to test the robustness of these propositions in the NHS and other sectors.
Second, the common theme of resistance from management and medical consultants experienced by all four case study Trusts and evident in the literature review implies that the power base of professional workers remains a crucial factor in the organisational context of change (McNulty and Ferlie, 2004); the capacity of doctors to influence the fate of change programmes within hospitals is shown to be significant (see SHK case study, section 6.6). Pettigrew and Whipp (1991) cite the assertion of Lorsch (1986) that developing a supportive organizational culture is about challenging and changing beliefs about success and how to achieve it. Thus in the example of implementing Lean in hospitals, it is about hospital doctors looking beyond their own work and expertise and seeing themselves as part of a wider process engaged in delivering patient care. All four case studies identify both middle management and consultants as being resistant to change efforts yet strategic management literature identifies middle management as key to shaping and implementing change (Balogun, 2003; Nonaka and Takeuchi, 1995). Respondent's at all four case studies identified medical consultants and surgeons as being collectively resistant to change, yet on an individual basis, the consultants interviewed as part of this study were highly supportive and enthusiastic about Lean implementation. This phenomena, reflects the existence of intra professional institutionalism as discussed in Currie and Suhomlinova (2006). Respondents at ELHT, UHCW and SHK attribute such resistance to the autonomous nature of a consultant's role that leads them to deploy various strategies that allow them to resist change (Currie et al, 2008).

Based on this discussion the researcher proposes the sociology of professions and strategic management literature as a potentially useful theoretical lens in order to help us to understand the contingencies of a healthcare environment and its impact upon Lean implementation. Examination of the sociology of professions literature combined with the study of Lean

implementation from the middle level perspective may help academics and practitioners to understand such professional behaviours in order to consider how such obstacles to Lean implementation in a professionalised context might be overcome.

8.4 Research Summary

The overarching aim of this research was to evaluate the implementation of Lean in the NHS. This research has achieved this through the application of Pettigrew and Whipp's (1991) framework of strategic change in order to: consider the characterisation of different approaches to Lean implementation taken by English hospital Trusts (research question 1), to assess whether there is any quantitative support for the impact of Lean implementation upon improved hospital performance at an organisational reporting level (research question 2), and to consider the relationship between the context of the hospital Trust and (the approach to) Lean implementation (research question 3). This research has led to a number of key contributions to both practice and theory as outlined in section 8.2. It is hoped that the research findings presented here provide an axiomatic platform for evaluating Lean implementation over time and developing new theoretical lenses for the evaluation of Lean phenomena in healthcare and other sectors.

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Appendix 1: Interview protocol

Context:

Why is the Trust implementing lean?

What do you perceive as Lean/how would you describe Lean?

Whose responsibility is service improvement in the Trust?

Process

What training in Lean is available/have you received

Describe the process of a Lean improvement event you have been involved in/have heard about

What do you perceive as the challenges and barriers to Lean implementation

Content

What has been the impact of Lean implementation?

How are the benefits and the impact of Lean measured?

Have benefits been sustained?

Evaluating Lean in healthcare

Volume II (of II): Document analysis data for all hospitals in England

By
Nicola Jane Burgess

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Business.

University of Warwick, Warwick Business School

April 2012

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[1] Identification of English NHS Trusts was via a list of acute hospital Trusts available from the national website NHS Choices: http://www.nhs.uk/ServiceDirectories/Pages/AcuteTrustListing.aspx#TrU. This national list does not exclude specialist NHS Trusts such as those whose services are focused on the provision of cancer treatments, women's and/or children's health, ophthalmology etc. and thus the researcher independently identified and removed specialist hospitals from the list. Whilst every effort was taken by the researcher to identify all acute general NHS Trusts in England from this list, it is with regret that the University Hospitals of Leicester is known to be omitted from the dataset. This omission was accidental and due to a data inputting error on behalf of the researcher.

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London

Case 1

Barnet and Chase Farm Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Enfield, Barnet, East Harrow, South Hertfordshire, South Essex, Waltham Forest				
Population/Location Characteristics	London, pleasant part of north central. Serves an ethnically diverse population which sits mainly in the ethnically diverse metropolis of London but providing services in areas of Hertfordshire.				The population determines the demand of hospital services
Staff				Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Averil Dongworth, a trained nurse.			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	2007/08 has been our most successful period in reducing the time that patients have to wait to gain access to care. In fact the last quarter of 2007/08 (Jan – March) we were the best performing Trust in London and in the top ten in the country… A budget surplus for the first time in our history. Cited service improvements include introduction of a paediatric assessment unit to avoid children waiting in A&E and new services for older people including shorter pre-operative length of stay in trauma and orthopaedics.			Success, recovery	The trust have had their most successful year and have delivered a financial surplus for the first time (recovery)
Notes on AR T2 (08-09; 09-10)	There is the potential for big changes to the healthcare landscape in the next 12 months. At the time of writing, a new coalition government is in the process of developing the public sector changes that will be implemented over the course of the current parliament. However, the progress we have made in recent years			Success, recovery	A continuation of success and recovery

	will not be undermined or contradicted by future plans. As always, our efforts to improve the care we provide, year on year will continue…I would also like to thank all staff members for their conscientious efforts that have resulted in us being officially named one of the 13 most-improved Trusts in the country, with a double 'Good' rating for both Financial Performance and Quality of Services. We made a financial surplus for the second year running…		
Process			
Service Improvement Approach	T1: An organisational Development Programme to continue through 2008-09 (AR 07-08) The Trust's 3-year Patient Experience Strategy, 'Simply the Best', was launched on 10th July 2008 with a celebration event involving patients, staff and main stakeholders. The strategy consists of eight campaigns, each of which has clearly identified aims for improvements up to 2011 and a designated campaign leader who will take the work forward (AR 08-09p.16) The internal Organisational Development Steering Team, chaired by the Chief Executive, has ensured that organisational and service improvements envisaged in the Organisational Development Plan this year have maintained pace e.g. completion of leadership programmes, enhancements to patient safety, delivering quality and value initiatives. T2: Staff involvement initiatives have always been a part of our work ethic, but they are now being used on a larger scale and more frequently than before. In carrying out two large-scale staff involvement forums over the last year, we are grateful for a Government grant of £90k that ensured our most senior staff stayed in close contact with the workforce that provides our services.	Organisational development programme	The programme does not name Lean as a methodology
Content			
Areas identified as under transformation	T1: T1: Lean Thinking and Productive Ward initiatives mentioned p.6 (AR07-08) 'An extensive range of Nursing Development activities has also been put in place, covering both staff programmes (e.g. coaching, training, action learning) as well as service improvement programmes (e.g. exemplar ward, patient experience, productive ward) which have been regularly reported on and will be on-going in 2009/10.' P.26 AR08-09) T2: A&E saw notable gains in efficiency and cleanliness following new methods of working. The Accident and Emergency departments have noted significant improvements in waiting times following the introduction of a new patient pathway over the last 6 months. This focuses on triaging patients that require major attention. There are several ways in which it does this, including streaming minor injuries to urgent care centres, as well as the training and standardisation of nurse-led triage such as the supply and administration of Patient Group Directions (PGDs). These are protocols allowing certain health care professionals to supply and administer medicines to groups of patients that fit selected criteria. Prior to this strategy's implementation, audits had shown that the average wait for a patient with a minor head injury to triage was 1 hour 45 minutes. Following the introduction of the new strategy, this has been measured at a vastly improved 12.5 minutes.	T1: PW only T2: Few Projects	T1: AR mentions lean thinking but description identifies PW only. T2: describes what could be interpreted as an application of Lean principles to A&E (streaming patients, standardisation and protocols), to speed up patient journey.
Interpretation of Lean	T1: PW T2: Few Projects	T1: PW T2: Few	

implementation		Projects	
Other Notes	Named one of the 13 most improved Trusts in the country (http://www.bcf.nhs.uk/about_us/annual_health_check/index accessed 30/8/2010)		

Case 2

Barts and the London NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	East London				
Population/Location Characteristics	Europe's most diverse communities – from the wealthy financial districts of the City and Canary Wharf to some of Britain's most deprived areas.				The population determines the demand of hospital services
Staff				Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	700,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Fair	Weak		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Julian Nettle, since 2007	Mr Peter Morris, OBE.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	Barts and The London hospitals are "world-renowned for our clinical excellence. We see a high concentration of complex cases, which means that we have some of Britain's leading specialists on our teams" (AR07 08:18) "high level of reporting overall and the routine reporting of 'near misses' reflect a strong safety and learning culture where staff are confident in reporting errors."(AR0809:25)			Successful performance	Talks of reputation
Notes on AR T2 (08-09; 09-10)				Performance issues	No AR can be downloaded for T2. Based ona deline in the CQC ratings, the trust is categorised as having performance issues
Process					
Service Improvement Approach	T1: Lean Transformation Programme. Lean pilots started in four key areas in June 2007 and are already making a real difference to patients'care. **Objective for 2008/09:** To treat our patients on time, every time and in the most appropriate setting. **Lean thinking** Barts and The London December 2008: Lean methodology – pioneered by Toyota			T1: Programme	Lean programme is clearly identified and discussed in T1 and T2

	over 50 years ago – is increasingly being used by the Trust as a management tool for streamlining and optimising services. It has been successful in reducing the number of separate visits patients have to make to, as well as decreasing their time in, hospital. This has been achieved by creating new integrated outpatient clinics, revising theatre schedules, and speeding up results from pathology.' (AR0809:26) T2: Our ambitious service transformation programme using the 'Lean' approach to continuous quality improvement continued during the year. By removing all the non-value added steps from patient care pathways, the programme is improving the quality of our services, whilst reducing costs.	T2: Programme	
Content			
Areas identified as under transformation	T1: "One of the largest Lean transformation programmes in the NHS...Our new service transformation programme, known as 'lean', is removing non value-added stages from patient care to ensure that everything we do adds value. This ambitious programme will improve patient care, reduce our cost base and help to ensure we make the most effective use of the unprecedented £1 billion investment in our new hospitals." (AR 0708:13) T2: "Our ambitious service transformation programme using the Lean approach to continuous quality improvement continued during the year. By removing all non-value-added steps from patient care pathways, the programme is improving the quality of our services, whilst reducing costs (AR0809:4) Last year, we added a new category to our annual Celebrating Success Awards to recognise the service or team that has demonstrated that they have acted on learning to reduce the risk of harm and improve patient safety. The winners, a multidisciplinary team on Devonshire nephrology ward, used our rapid redesign programme Lean to reduce the time spent on tasks not related to healthcare and to improve privacy for their patients. Using the programme's 'six s' toolkit, the team now works in a safer and cleaner environment and has increased the number of procedures they carry out since they streamlined their processes. As a result, patient satisfaction has increased. (AR0809:24) 'Barts and The London has been selected as one of 10 sites in England to pilot an NHS Improvement project for cervical screening to ensure all women receive their test results within 14 days of a sample being taken. The project, which is being undertaken using the Lean methodology as part of the service transformation programme for pathology services, involves a multi-disciplinary team from across Barts and The London and NHS Tower Hamlets.' (AR0809:28)		
Interpretation of Lean implementation	T1: Programme T2: Programme	T1: Programme T2: Programme	

Case 3

Chelsea and Westminister Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (External)					
SHA	London			London	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics	Kensington, Chelsea and Westminster as well as parts of Fulham, Putney, Wandsworth and Battersea. The hospital is located in a busy, multicultural area of west London				The population determines the demand of hospital services
Staff	2718			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	390,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	October 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Heather Lawrence, Appointed 2000. Board level experience for 15 years. Her management experience spans all sectors of health care and includes major service change, including the development of innovative services, service re-design, developing an academic department, and closure of services.			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	2007/08 was our first full year as a Foundation Trust following our authorisation by the regulator Monitor in October 2006. It was a year of significant achievement as Chelsea and Westminster maintained and developed its reputation as a hospital of choice… We had a small number of unacceptable breaches of the 13-week outpatient waiting time target but steps have been taken to ensure this does not happen again. The Trust Board also made a one-off payment of £100 to every member of staff as a thank you for helping the Trust to achieve a double 'Excellent' rating in the Healthcare Commission's annual performance ratings.			Successful performance	No performance issues highlighted

Notes on AR T2 (08-09; 09-10)	2009/10 was a successful year for the Trust thanks to the commitment of all our staff. We achieved a double 'Excellent' rating for both 'Quality of Services' and 'Quality of Financial Management' in the 2009 NHS annual performance ratings, placing us among the top 9% of NHS trusts.We expect to retain a double 'Excellent' rating for our performance in 2009/10 when the Care Quality Commission publishes the 2010 ratings in October. Chelsea and Westminster was rated as the fourth best performing hospital in England for patient safety in the Dr Foster Hospital Guide 2009	Successful performance	No performance issues highlighted
Process			
Service Improvement Approach	T2:In 2009/10 we introduced the Patient Experience Tracker to gather 'real-time' patient feedback and rolled out the *Releasing Time to Care—The Productive Ward* programme to ensure that our frontline clinical staff spend more time with patients. (p.9) T2: The Trust is operating in challenging economic times for the NHS—we have established the *Fit for the Future* programme to make 10% cost savings in 2010/11 by encouraging our staff to work in different ways in order to deliver greater efficiency and productivity without compromising quality.(p.12)	T2: PW	
Content			
Areas identified as under transformation	T2: PW rolled out to 14 wards		
Interpretation of Lean implementation	T1: No Lean T2: PW	T1: No Lean T2: PW	
Other Notes			

Case 4

Croydon health Services formerly Mayday Healthcare NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Croydon				
Population/Location Characteristics	A transient, relatively young population with a high level of ethnic diversity.				The population determines the demand of hospital services
Staff	2800			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	330,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Fair	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Helen Walley	Nick Hulme joined the Trust as Chief Executive on 6 July 2009		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'Inevitably, progress has not been consistent in all areas. When we published our Annual Report last year we were just coming out of a difficult period of financial turnaround and at a crucial stage in achieving a stable and sustainable future for our business. We have made a huge leap forward in the last two years, thanks to a series of ambitious savings plans and a nationally recognised programme of service improvement. This has meant a recurrent deficit of £5.8million two years ago has been transformed into a £5.0million surplus this year .We have made a huge leap forward in the last two years, thanks to a series of ambitious savings plans and a nationally recognised programme of service improvement'…The responses to this year's national Maternity Services survey were not good for Mayday where we were rated "least well performing". In addition, we fared poorly in the Healthcare Commission's Inpatient Survey for 2007.			Performance issues	Although the trust has recovered financially, performance issues are brought to light
Notes on AR T2 (08-09; 09-10)	We have launched the "Patient Revolution" where, by listening to our patients, visitors, partners and staff we have been able to develop a new shared vision and values to help create and nurture a patient-centred culture of compassion, respect and safety amongst staff – building on the			Successful performance	No issues highlighted

	best practice we already see in our hospitals and in the community.(p.8)		
Process			
Service Improvement Approach	T1: We have launched the "Patient Revolution" where, by listening to our patients, visitors, partners and staff we have been able to develop a new shared vision and values to help create and nurture a patient-centred culture of compassion, respect and safety amongst staff (p.8)	T1: No Lean	
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: The Productive Ward programme has been implemented across the Organisation	PW	
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: No Lean T2: PW only	T1: No Lean T2: PW only	
Other Notes			

Case 5

Ealing Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	West London, Ealing				
Population/Location Characteristics	ethnically diverse with considerable variation in social and economic status. 49% of local residents are from the black and minority ethnic groups, mainly from the Indian sub-continent. Patients attending the Trust come from a multi-cultural, relatively young population with a considerable spectrum of social and economic status			Ethnically diverse, young population	The population determines the demand of hospital services
Staff	1642			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	250,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Fair	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Julie Lowe	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	Looking to the future we were delighted to be invited by the Department of Health, at the beginning of 2007, to apply to become an NHS Foundation Trust. We were one of only two NHS Trusts in London to be invited to go for Foundation Trust status at the time and this was a tremendous boost for the Trust (AR0607:3)			Successful performance	No issues highlighted
Notes on AR T2 (08-09; 09-10)	Changes across London mean that Ealing Hospital NHS Trust won't, as we hoped, become a Foundation Trust in its own right. 'We need to find a new organisational model that enables us to provide high quality, local care and reach FT status. This is because all trusts have to reach FT status or merge with an FT by 2010			Change, uncertainty	The trust is going through a period of change and uncertainty following changes across London
Process					
Service Improvement Approach	Nothing detailed				
Elements of Lean? (RIEs, PW, waste elimination etc)					

Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 6

Epsom and St Helier University Hospitals				
Construct	Data Collected		Categorical interpretation	Rationale
Context (external)				
SHA	London		L	
Context (Internal)				
Physical Attributes, Structure				
Area Served	South West London and northeast Surrey			
Population/Location Characteristics	a culturally and economically diverse population with a wide range of deprived and affluent areas within urban, suburban and semi-rural settings		Diverse	The population determines the demand of hospital services
Staff	4800		Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	420,000			
Trust Performance				
Foundation Trust Authorisation	T1	T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09	Performance not categorised
	Good	Good	Good	
Use of Resources (CQC)	2006/07	2007/08	2008/09	
	Weak	Fair	Fair	
Leadership				
Chief Executive (name and background)	T1	T2		
	Samantha Jones, since July 2007. A paediatric and general nurse by background.	Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)				
Notes on T1 AR (06-07; 07-08)	2007/08 has been a year of positive change for the Trust, which has resulted in significant improvements to the level of care we provide to the people of Sutton, Merton, Epsom and beyond. These improvements focus on the speed at which patients are seen and treated, the quality of care they receive, and getting even better in the way we work with patients to make sure their care is as convenient and accessible as possible... Our overall services were rated as 'good' by the government's health watchdog, the Healthcare Commission, an improvement on last year's 'fair' rating. On top of this, the Trust achieved all the targets relating to cancer waiting times, minimising cancelled operations and delayed transfers of care... Of all the targets, one of the hardest was ending the year with balanced books, especially when you consider we finished 2006/07 with a £5.5million deficit. Our staff and volunteers worked so hard to help us to achieve this and, importantly working together to prevent patient care being compromised.		Success, recovery	Inference that the trust managed to overcome a 5.5 million deficit at the same time as improving services
Notes on AR T2 (08-09;	For the third year running, we have met the key		Successful	No issues highlighted

09-10)	standards that the Government sets for hospitals. This is excellent news for our patients and a fitting tribute to the hard work of our dedicated staff and volunteers	Performance	
Process			
Service Improvement Approach			
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 7

Guys and ST Thomas NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Lambeth, Southwark and Lewisham				
Population/Location Characteristics	cultural and ethnic diversity			Ethnic diversity	The population determines the demand of hospital services
Staff	9000			Large trust	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	July 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Ron Kerr			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	A well known and top performing London Teaching hospital…Since becoming an NHS Foundation Trust in July 2004, the hospitals continue to be amongst the best performing in the NHS both in terms of quality of care and financially. As well as being one of the most successful Foundation Trusts, we are also one of the busiest with around 750,000 patient contacts a year.			Successful performance	The trust has a reputation as a successful trust; the trust has performed successfully across the last year
Notes on AR T2 (08-09; 09-10)	As well as being one of the most successful Foundation Trusts, we are one of the busiest, with around 900,000 patient contacts every year… In October 2009, the Trust was very pleased to achieve the highest possible rating from the Care Quality Commission in its annual health check – rated as 'excellent' for the quality of services and 'excellent' for the quality of financial management on a scale of excellent, good, fair or weak. Guy's and St Thomas', in common with the public sector as a whole, is clearly entering a far more demanding operational and financial environment and there is an urgent need to increase efficiency whilst maintaining high quality care. We will use our strong track record over recent years to adapt to this new environment – and we believe the greater freedoms we are afforded as an NHS			Successful performance	The trust has a reputation as a successful trust; the trust has performed successfully across the last year and expect to build on this platform in the coming year.

	Foundation Trust will allow us to continue to thrive and to set our own strategic direction for the benefit of the patients and communities we serve, as well as our staff.		
Process			
Service Improvement Approach	T1: 'The Modernisation Initiative has played a leading role in helping to create a culture where patient views lie at the heart of service redesign, embedding patient and public involvement in all three of its work streams – services for kidney, stroke and sexual health.' Further…200 senior clinical and nonclinical staff who have completed our Change Leaders Programme. In addition, there are 15 staff who are full time 'change agents' working on key strategic initiatives, such as the delivery of the 18 week pathway measures. Search string on website reveals the following text: 'on track to deliver key outputs of Lean principles in re-design' T2: Pressures such as high levels of infection in the community, adverse weather conditions and the need to plan for an anticipated flu pandemic have added to operational challenges during the year. Pressing operational needs have necessarily taken priority at times, and the launch of our Trust-wide transformation programme is in part a response to this – recognising that we require additional focus and structures in place to deliver the level of efficiencies that will be needed in future. (p.9) T2: Although we have set a plan for 2010/11 to deliver a surplus of £5 million, we will continue to look for opportunities to deliver efficiency savings, remove waste and reduce costs. Our aim is to over exceed this target to maximise the investment we can make in clinical services and the Trust's estate strategy. T2: The Trust recognises that real efficiency gains and service improvements can only be achieved by changing our business processes, and the Trust has a dedicated change team which leads on transformation work, overseen by a new Transformation Board. The transformation programme has been set a target to save £50 million from April 2011. (p26)	T1: Few Projects T2: Programme	An improvement initiative is in place that echoes the principles of Lean in relation to putting patient value at the heart of service redesign. The website search confirms the use of Lean principles. T2: Again the service improvement approach echoes Lean principles suggesting that the programme is underpinned by Lean methodology.
Elements of Lean? (RIEs, PW, waste elimination etc)	Since May 2009, the Trust has been rolling out the national *Releasing time to care* initiative, which will increase the amount of time that staff spend directly with patients, by cutting waste and making processes more efficient. Simple changes such as a colour coded system in the store room, or more organised bedside notes are saving valuable time and allowing our nurses to get back to the bedside.		
Content			
Areas identified as under transformation	T2: Our estates plans support and underpin our clinical services strategy and also the major transformation programme that we launched this year to drive efficiency and cost reduction, whilst improving quality and patient focus. The initial areas of transformation work are the emergency,	Pathway focus	Improvement work is identied around patient pathways and not isolated functions.

	outpatient and elective patient pathways and technology support for patient care. Strong clinical engagement will be critical to success and this work will be a major organisational priority over the coming year. It is complemented by the *Showing we care* campaign which we launched in summer 2009 to focus on organisational culture and behaviours, and in particular how these can be a force for good in supporting our efforts to improve every aspect of the patient experience. (p.9)		
Interpretation of Lean implementation	T1: Few Projects T2: Programme	T1: Few Projects T2:Programme	
Other Notes			

Case 8

Hillingdon Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	North west London Borough of Hillingdon, and increasingly to those living in the surrounding areas of Ealing, Harrow, Buckinghamshire and Hertfordshire				
Population/Location Characteristics	close to Heathrow Airport for which we are the emergency receiving Hospital				The population determines the demand of hospital services
Staff	2400			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair		Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good		Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	David McVittie, appointed 2001. Accountancy background.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	My goal for this Trust has always been to 'be the best', and this is an aim which sees us continuously driving forward to make improvements... I am disappointed that our Quality of our Services was rated as fair by the Healthcare Commission, however, we will not let this deter us from what is a continuing trend of service and quality improvement.			Performance issues	Performance issues are standing in the way of the trust's vision to 'be the best'
Notes on AR T2 (09-10)	We again achieved our key targets and retained our rating of Good for Quality of Service and Good for Financial Management in the Annual Health Check ratings for 2008/09. Of particular delight is the fact that we hit our infection control targets, reducing the number of MRSA infections from 17 to 10 and C-difficile infections from 158 to 76... I am proud of the culture that we have at the Trust, which I believe is due to the people who work and volunteer here and use our services. I hope we listen, learn and constantly strive to improve (AR0910:) Our vision is simple: *'to be the best general hospital in the country'*. (AR0910:11)			Successful performance	No reported performance issues, sense of achievement and optimism.

Process			
Service Improvement Approach	T2: A service improvement team is in place (2010) accompanied by external Lean consultants.		
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: PW T2: RIEs		
Content			
Areas identified as under transformation	T2: 'The Trust held its first rapid improvement event at Mount Vernon Hospital. The 'Going Home' project focused on the discharge process on Trinity Ward and was led jointly by the Service Improvement Team and an external LEAN facilitator, Karen Walker. The aim of the project was "To provide a measurably quicker, smoother, and more comfortable discharge experience"' (Source: Staff magazine 'Pulse', May 2009) PW in wards, Lean in clinical areas.		T2: A few key projects are identified. It is difficult to tell at this stage whether the projects are adhoc or form part of a programme. The evidence infers the projects to be adhoc.
Interpretation of Lean implementation	T1: PW T2: Few Projects	T1: PW T2: Few Projects	
Other Notes			

Case 9

Homerton University Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Hackney, City of London				
Population/Location Characteristics	The white population, itself diverse represents 60% of the population of Hackney including 11% who are "white other". There are significant Turkish, Kurdish and Jewish communities in Hackney. The remaining 40% is made up of many groups, with Black Caribbean (9%) and Black African (11%) predominating. 10% of the population is South Asian and 1.4% is Chinese. Over a quarter (28%) of the resident population of Hackney is aged under 20. There is a 30-40% turnover of our population each year and there are a large number of refugees and asylum seekers. Hackney faces substantial challenges in terms of economic and social deprivation. Our Jarman Underprivileged Area score is one of the highest in the country: • we have a large migrant population • there is very high unemployment • child poverty is high, with the highest rates nationally of children living in families dependent upon income support or benefits • teenage pregnancy rates are amongst the highest in the country. This strong population diversity has a direct impact on the health issues that the community faces, with high levels of: • perinatal and infant mortality • coronary heart disease • cancer • diabetes • infectious diseases, including HIV, hepatitis C and TB • sickle cell disease • chronic obstructive pulmonary disease.			Ethnically diverse, financially deprived	The population determines the demand of hospital services
Staff	2200			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	270,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name	T1	T2			

and background)	Nancy Hallett, since 1999. She joined the Trust in 1993 as director of nursing and patient services, and later director of service development, having previously worked in nurse management and education in the NHS.	Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)				
Notes on T1 AR (07-08)	Our wait times are far shorter than many other hospitals – the average wait for a routine outpatient appointment is just 3.5 weeks and no-one now waits over 5 weeks - and we already far exceed key milestones for achieving the Department of Health '18 week referral to treatment' target…Whilst the Trust's major service base is in clinical services, it has important strengths in other associated areas, in particular, teaching and training and service innovation. Our clinical staff has continued to drive service improvement and improve patient care through research and development		Successful performance	No concerns reported
Notes on AR T2 (09-10)	A change of government brings with it inevitable challenges and opportunities. Once more, the shape of the health service is set to change, this time in a different direction – more locally driven and with greater GP involvement. Homerton stands ready to meet these changes from a base of impressive achievement which will stand us in good stead in the months ahead…Good quality staff, attainment of national targets for health provision and a consistently excellent financial performance all add up to a strongly positive story – the envy of others…I am particularly struck with the improvements that are now coming through in our perinatal service and in the fertility unit. (p.6)		Successful performance	No concerns reported
Process				
Service Improvement Approach				
Elements of Lean? (RIEs, PW, waste elimination etc)				
Content				
Areas identified as under transformation				
Interpretation of Lean implementation	T1: No Lean T2: No Lean		T1: No Lean T2: No Lean	
Other Notes				

Case 10

Imperial College Healthcare NHS Trust				
Construct	Data Collected		Categorical interpretation	Rationale
Context (external)				
SHA	London		L	
Context (Internal)				
Physical Attributes, Structure				
Area Served	North London			
Population/Location Characteristics				The population determines the demand of hospital services
Staff			Large	Imperial College Healthcare NHS Trust was created on October 1, 2007 by merging St Mary's NHS Trust and Hammersmith Hospitals NHS Trust and integrating with the faculty of medicine at Imperial College London. Now one of the largest NHS trusts in the country
Catchment Population				
Trust Performance				
Foundation Trust Authorisation	T1	T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09	Performance not categorised
	n/a	Good	Good	
Use of Resources (CQC)	2006/07	2007/08	2008/09	
	n/a	Good	Good	
Leadership				
Chief Executive (name and background)	T1	T2		
	Professor Stephen Smith		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)				
Notes on T1 AR (07-08)	This is the first annual report for Imperial College Healthcare NHS Trust. 'We are a new organisation, formed on October 1 2007, and a new type of organisation in UK healthcare and biomedical research. We have created the UK's first Academic Health Science Centre (AHSC) by merging The Hammersmith Hospitals NHS Trust with St Mary's NHS Trust in partnership with Imperial College London. All three organisations were leaders in their fields with world-wide reputations and proud histories.' (AR0708:7). "Maintaining excellence whilst ushering in dramatic change and exciting opportunities was the theme for 2007/08" (AR 0708:24)		Structural change	The organisation is new but the organisations that form part of this new structure are experiencing considerable change.
Notes on AR T2 (09-10)	This has been a very exciting year for Imperial College Healthcare NHS Trust; a time of achievement, innovation and		Successful performance	No issues reported

	of consolidation... We are determined at Imperial College Healthcare NHS Trust to be at the forefront of healthcare research and innovation, leading to better patient care and experience.		
Process			
Service Improvement Approach	T1: Applying Lean methodology to Theatres (AR0708) T2: we are embarking on a major customer care programme called 'I care', which will target our energies across the entire patient journey. It includes training more than 2,000 of our frontline staff over the coming year	T1:Few projects T2: Few projects	The trust appears to be using Lean methodology at least with regards to a 'few projects approach'. The available data makes it difficult to discern whether the implementation of Lean in the trust goes beyond a 'few projects'.
Elements of Lean? (RIEs, PW, waste elimination etc)	'Effective and lean processes' cited as one of seven themes (AR0910:20) *"The Trust has established a comprehensive, ward-by-ward programme to ensure compliance. This includes a £9m capital scheme, process re-engineering of patient flows and a behavioural change programme, and was overseen by a project board."* (AR0910:44)		
Content			
Areas identified as under transformation	T1: Theatres T2: Wards		Wards and theatres suggests this is more than PW only but set within a context of a transformational change programme
Interpretation of Lean implementation	T1: Few Projects T2: Few Projects	T1: Few Projects T2: Few Projects	
Other Notes	Imperial College Healthcare NHS Trust was created on October 1, 2007 by merging St Mary's NHS Trust and Hammersmith Hospitals NHS Trust and integrating with the faculty of medicine at Imperial College London. Now one of the largest NHS trusts in the country, we have come together with the College to establish one of the UK's first academic health science centres (AHSCs).		

Case 11

Kings College Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	London boroughs of Lambeth, Southwark and Lewisham				
Population/Location Characteristics					The population determines the demand of hospital services
Staff				Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	700,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st December 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Fair	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Tim Smart since November 2008. He had previously held the post of Managing Director, BT Global Services UK. Tim has had a successful 30-year business leadership track record, in a number of roles both in the UK and overseas.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'We lead change in all aspects of our services. King's staff pioneer new ways of doing things and share the benefit of their research and clinical expertise with healthcare organisations all over the UK and beyond. We are innovators. It is not unusual for King's to develop world firsts, and Government policy is often informed by new processes we have developed. People look to King's for leadership, and patients benefit from the life-saving and life-changing care we provide' (p.5)... **I am delighted to be able to report our best year ever in terms of finances and truly excellent performance… Our culture is one of innovation:** **we are always looking forward and exploring opportunities to improve services and treatments.** Operationally, meeting the 18 week target has seen very high levels of activity as we have worked hard to reduce the length of time			Successful Performance	No performance issues highlighted

	patients are waiting for treatment. Measures we have introduced to help meet the targets have included reducing length of stay, increasing our theatre utilisation to carry out more operations and treating patients in the evenings and at weekends.		
Notes on AR T2 (09-10)	Despite significant financial obstacles, we finished the year with a relatively small deficit and a record of high achievement in quality and operational performance…We enter the most difficult economic times for the NHS much leaner and more focused than we have ever been, but the challenges are great….Our ambition is to be a beacon of modernity in healthcare. (p.11) 2009/10 was a more difficult financial year for the Trust than recent years, due to reductions in central government funding, affordability issues for our local commissioners and high levels of activity meaning capacity was exceeded forcing high cost out of hours and off-site working. For the year, the Trust made a surplus of £2.8m before exceptional items, compared to a planned surplus of £5.7m.	Successful performance	Despite financial challenges the summary projects the year as successful
Process			
Service Improvement Approach	T1: The improved financial position is a continuation of a trend witnessed in recent years whereby the clinical divisions have delivered increased activity levels at a lower unit cost. They have been assisted in this by the positive benefit of our 'First Choice' transformation programme, which has significantly improved the Trust's efficiency, as well as the full roll-out of the new Performance Management Framework which extends accountability for performance down to a multi-disciplinary team level. (p.10) T1: First Choice is an ongoing change programme that provides the framework, the tools and the expertise to allow King's to identify better ways of working – and then to make it happen. (p.25) T2: The "Go & See" programme was introduced in August 2009. The visits are not designed to be formal audits but are an opportunity for senior staff to listen to our front line staff, patients and relatives to see how we can support staff to further improve quality of care in an efficient way. The 'Go & See' visit is for setting the right behaviour and creating visible leadership.	Transformation programme	No explicit lean implementation
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Patient journey mapping has transformed day surgery management at King's and has enabled the unit to reduce patient waiting times from over 11 weeks to less than five, while simultaneously increasing the number of patients receiving surgery by nearly 40%... A visual management system – essentially a huge white board in the middle of the unit – was introduced to plan and track each patient's progress and a ward facilitator was appointed to improve communication and act as a central point of information for both patients and staff. This has	T1: Lean tools	Process mapping and visual management are tools very often associated with Lean

	resulted in improved theatre planning, shorter waits and improved staff morale.		
Interpretation of Lean implementation	T1: Few Projects T2: No Lean	T1: Few Projects T2: No Lean	
Other Notes			

Case 12

Kingston Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Central London: Kingston, Richmond, Roehampton, Putney and the borough of East Elmbridge				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2626			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	320,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Carole Heatly	Kate Grimes; Kate specialised in service improvement and redesigning services with patients, managing a major change programme at King's College Hospital which pioneered new techniques in service design and delivery.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	2007/2008 has been a successful year for Kingston Hospital. Against a background of major change within the NHS the hospital has continued to perform well against our three key objectives of improving the patient experience and quality of care, delivery of the key national targets and further improvements in efficiency and productivity (AR0708:3)			Successful Performance	No reported issues
Notes on AR T2 (09-10)	Being named as the best district general hospital in London by Dr Foster, and as the 15th best hospital in the whole country, was a real boon and has focussed our minds on achieving even more in the coming year…Our Care Records Service (CRS) was introduced at the end of 2009 and whilst not without its challenges, we˝ve been told it is the most successful introduction of the service in the country so far.			Successful Performance	No reported issues
Process					

Service Improvement Approach	T1: has been a change in the consultant workforce and the appointment of a new Clinical Lead, Dr Dan Harris, who joined the Trust in September. Under his leadership, a much-improved educational and training package for junior medical staff within A&E has been introduced (AR0708:17). Continued improvements in efficiency have been delivered during the year achieving a large cost improvement programme (AR07080:4) T2: 'A reorganisation into clinically led divisions has helped each team really focus on what they can achieve and how they can improve. That team spirit has helped Kingston Hospital achieve such a great deal in 2009/10.' (AR0910:4)	T1: Cost improvement programme T2: Clinically led divisions	
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: The Trust's annual plan (0708) references the 'introduction of the RAG project on one medical ward to improve the flow of medical patients in acute medical beds. The RAG project uses the principal of 'Lean Thinking' to impact on work flows…The development of clearly defined protocols for each of the major care pathways.' (p.30). In the previous year's annual plan, the document states 'we will begin to adopt the concept of Lean Thinking in our approach to improvement work (0607:12) T2: PW: 'Kingston Hospital"s Worcester Ward has successfully implemented The Productive Ward, an innovation which, when implemented, releases time for Midwives and other staff to directly care for women and which has delivered positive results for patients and the hospital. Key highlights include: • Patient At a Glance board, an acronym free board which uses strong colours and easily recognisable indicators, to provide all information staff require without having to interrupt women. As a result, interruptions have reduced from nine per hour to four – a 50% reduction per shift • Well Organised Ward – a „welcome" folder for women and their families has been introduced to assist them with key information to help them find their way around. There are now photographs on cupboards and transfers on the floor, so it is very visible where equipment and stock needs to be stored. The two-bin system has led to improved control of stock levels and reduction in wastage. Changes to the storage of linen by introducing a linen trolley at each end of the ward will save 18 shifts per year. The Productive Ward programme will now be rolled out across other areas of the Maternity Unit.' (AR0910:18)	T1:Few projects T2: PW	T1: Clear statement of the adoption of Lean thinking
Content			
Areas identified as under transformation	PW in Maternity and Lean thinking to some patient pathways.		
Interpretation of Lean implementation	T1: Few Projects T2: PW only	T1: Few Projects T2: PW only	

Case 13

Construct	Lewisham Hospital NHS Trust Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Southeast London				
Population/Location Characteristics	Diverse multicultural population				The population determines the demand of hospital services
Staff	2500			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	265000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Fair	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1		T2		
	Claire Perry		Tim Higginson	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	The Trust achieved small surplus through staff redundancies but remain categorised as financially challenged due to inability to repay historical debt (AR0607:3)			Change, uncertainty	
Notes on AR T2 (09-10)	Lewisham hospital has merged with Lewisham community services: "This is one of the first times in the country that community and hospital staff have worked together under one organisation like this. By bringing together healthcare experts we can offer local people the best possible service, with reduced waiting times and a more personalised service." Website: http://www.lewisham.nhs.uk/for_media/news/100_days_of_integration.aspx (30/11/10)			Structural change	
Process					
Service Improvement Approach	T2: The Trust currently has a major organisational focus on service redesign through its broader transformation programme (Quality Account 0910:6) *The Trust's three priorities for improvement are* (Quality Account 0910:7)*:* *1. Driving Quality Improvement By Using Measurements of Clinical Care* *2. Driving Quality Improvement By Redesigning Care, and* *3. Driving Quality Improvement Through Public and*			T2: No Lean	Emphasis on service redesign but no evidence of Lean

	Patient Engagement		
Elements of Lean? (RIEs, PW, waste elimination etc)	No explicit mention of Lean		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 14

Newham University Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Primarily serve Newham's 240,000+ population but also provide services to the residents of Redbridge, Waltham Forest, Barking and Havering, City and Hackney and Tower Hamlets			Young	The population determines the demand of hospital services
Population/Location Characteristics	One of the youngest, fastest-growing and most diverse populations in the country.				
Staff				Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	240,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good		Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak		Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Graeme Jolly (acting)	Andrew Woodhead (left at end of April to take up secondment) Michaela Morris has worked as Interim Chief Executive at the Trust since May 2010. She joined Newham in March 2009 as Chief Operating Officer, a role that allows her to combine the Executive lead for the day to day running of the Trust, with the lead responsibility for strategic issues.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	The last 12 months has been a year of great change for the Trust and we have continued to achieve much against the challenges and changes we have faced (AR0708:4). There have been some significant changes in our leadership with the retirement of Kathy Watkins, Chief Executive earlier this year. Kathy had been with the Trust 10 years – a record breaking term of service.			Change and uncertainty	Previously stable CE
Notes on AR T2 (09-10)	I am reflecting on the Trust's good performance in hitting our key national targets. I am delighted to confirm that we			Successful performance	No issues highlighted

	achieved 98.28 per cent for the 4 hour A&E target, that we hit the 18 week target, and that we had fewer MRSA bacteraemia and C. Diff cases than our upper limit. Our end of year financial position reflects a small surplus too. Without a doubt, this has been an excellent and exciting year for the Trust.		
Process			
Service Improvement Approach	T1: Following a reorganisation of services in the early part of 2007/08 the Trust recruited to two new positions at Board level; Director of Operations and Director of Strategy and Service Improvement (AR0708:4) T2: Improving performance is not just about hitting targets but also about ensuring that we are continually driving up our standards. Through our Governance, Infection Control and other related teams, we maintain our focus on the need to continue to raise our standards, deliver continuous improvement, and provide better quality care. (AR09/10:37)	T1: reorganisation of services T2: No Lean	
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 15

North Middlesex University Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Enfield				
Population/Location Characteristics	A diverse and, in places, highly dependent population. 80% of the current inpatient activity is emergency care many different cultures and there are more than 141 languages spoken in the local community. 25% of the population in the Trust's catchment area was from minority ethnic communities. The concentration of the black and minority ethnic population ranges from 14.1% in Enfield to 29% in Haringey. In East Haringey and Edmonton, it rises to 42% of the population in some areas.			Ethnic diversity	The population determines the demand of hospital services
Staff	2000			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	262000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Clare Panniker			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	At the start of 2006 we were faced with tough decisions as we implemented our turnaround plan and started the long journey back towards financial balance (AR0607:5)			Performance issues	The trust is facing financial issues.
Notes on AR T2 (09-10)	Ultimately, we want our hospital to be the local hospital of choice for patients, GPs and commissioners because we provide high quality hospital care, over and above national standards. (AR0809:2) As we enter a period of financial belt-tightening, the Trust can confirm it is well placed to meet the efficiency and productivity challenges that lie ahead. We returned to a stable financial footing in 2009/10, paying off the accumulated long-term debt as well as - for the third year running - achieving a financial surplus in year. This has been a remarkable achievement that gives us strong foundations on which we can			Success, recovery	From a tough financial position in T1, the Trust has recovered financial balance.

	transform our services to be more productive and patient-centred. (AR0910)		
Process			
Service Improvement Approach	T2: 'The Trust's strategy and approach has been branded 'EQUIP' (Everyday Quality Improvement for Patients) as it is about equipping the organisation, and the staff who work in it, to continuously improve quality for patients even if they do not work on the "front line." Underpinned by Lean Six Sigma methodologies, and working initially through structured projects, EQUIP has six core features: the Six P's. 1. Patients – making sure services are designed and delivered to meet the needs of the patient. 2. Productivity – eliminating activities that do not add value to patients or that are not essential for the organisation to function. A focus on the prevention and avoidance of all forms of waste. 3. Pathways – focusing on the patient journey as a whole so that improvements in one area don't produce bottlenecks in another. 4. Processes – analysing and improving clinical and administrative processes to ensure patients move through the hospital, as smoothly as possible and patient outcomes are as good as possible. 5. People – engaging staff in improvement projects and supporting individuals and teams to change. 6. Performance – agreement of how improvement will be measured and ensuring robust systems of measurement are in place to demonstrate improvement.	T2: Few projects	Clear statement of 'projects' that are underpinned by Lean methodology. This may develop into a programme
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	'Structured projects' across the Trust		
Interpretation of Lean implementation	T1: No Lean T2: Few projects	T1: No Lean T2: Few projects	
Other Notes			

Case 16

North West London Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Northwest London: Brent, Harrow and beyond				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Fair	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Weak	Weak		
Leadership					
Chief Executive (name and background)	T1	T2			
	Fiona Wise started April 2007			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	This year we set about improving our facilities with a £14 million Investment programme. Some of the lowest mortality rates in London but the Trust was unable to meet the 4 hour waiting time target in A&E. Plan is to get finances on track to begin application for FT status (AR0708)			Performance issues	Difficulties meeting certain target
Notes on AR T2 (09-10)	'death rate is the lowest in the country, infection rates at an all time low and CQC rates Quality of Service 'Excellent' (AR0910:3) The Trust has hit the A&E 4 hour target for the 2nd year running. Our financial position continues to be a challenge but we achieved our budget on target with £17m savings whilst improving quality standards.			Successful performance	No issues reported
Process					
Service Improvement Approach	T1: Patient story				
Elements of Lean? (RIEs, PW, waste elimination etc)	No				
Content					
Areas identified as under transformation	None				
Interpretation of Lean implementation	T1: No Lean T2: No Lean			T1: No Lean T2: No Lean	

Case 17

Royal Free Hampstead NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Barnet, Camden, Islington and Haringey PCTs, together with west Enfield and east Brent				
Population/Location Characteristics	Apart from in the extreme north east of Enfield, nobody in north central London lives more than five miles from a service managed and provided by the Royal Free.				The population determines the demand of hospital services
Staff	4800			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Charles Bruce (Interim)	David Sloman		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'Change is never easy, and rapid change on an unprecedented scale can seem like an insurmountable challenge. But over the past year the trust has risen to such a challenge, with resounding success… The Trust has been invited to apply for foundation trust status a year ahead of schedule' (AR0607)			Success, recovery	Success following a period of 'rapid change'
Notes on AR T2 (09-10)	Our services have been rated "excellent" for the third year running, most recently by the Care Quality Commission. We were the only London teaching hospital to achieve this. We also stand alone with our mortality rates, which are the lowest in England and 29% better than average… The Royal Free plans to treat this as an opportunity to improve clinical quality and patients' experience of our service as we seek out more efficient ways of delivering the care they need. We know that poor clinical quality or a bad patient experience often wastes money and our 2010/11 plan includes measures to improve in these areas… Encouragingly, senior clinicians from the Royal Free, the Whittington and UCLH have been working together to develop options for improving services and reducing costs and we expect that the year ahead will see progress on these fronts.			Successful performance	No issues reported

	(AR0910:1)		
Process			
Service Improvement Approach	T2: The Trust attributes their success to a back to basics approach "we have examined rigorously all our processes to ensure we are achieving core aims of putting the patient at the centre of everything we do." We have redesigned the way we do day surgery to ensure that unless otherwise clinically indicated, patients are admitted, treated and discharged on the same day. Operating theatres are now running 11 hours a day, which has also contributed to a dramatic increase in the number of patients having their surgery on a day-case basis. Our "one-stop" clinics enable out-patients to have all their investigations and to see a consultant or nurse with their results during the same visit. Out-patient clinics are also now being held in the evenings when it is more convenient for patients, which has resulted in fewer missed appointments. .	T2: Echo Lean principles	T2: Echo Lean principles but search string on website reveals the use of lean in relation to a few projects in T1 and T2 (see 'elements of Lean')
Elements of Lean? (RIEs, PW, waste elimination etc)	Search string on Trust website (conducted 15th July 2008) identifies evidence of Lean pathway changes and Lean process application (wards, pharmacy, back office). T2 search string of the Trust website finds evidence of Lean Theatres and Productive Ward amongst other initiatives.	T1 & T2: Lean projects	Lean identified through website search
Content			
Areas identified as under transformation	Wards, pharmacy, back office functions and theatre		
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes			

Case 18

South London Healthcare NHS Trust – merged trust (see 'other notes')					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	South East London and more specifically to the communities living in the London Boroughs of Bexley, Bromley and Greenwich.				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	1 million				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
Use of Resources (CQC)	2006/07	2007/08	2008/09		
Leadership					
Chief Executive (name and background)	T1	T2			
	Bromley: Ian Gibson (joined jan 2007) Queen Elizabeth: David Robson Since April 2008	Dr. Chris Streather – a clinician with senior management experience and has served on a number of service reconfiguration project boards including the NHS Next Stage Review.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	**Bromley:** '2007/08 has been a difficult and challenging year for the Trust. Last summer we reported a gap between income and expenditure of £23M. We have since managed to reduce this gap, and ended the year with a deficit of £17.9million. Although this was less than the £18.7M we had anticipated, this ongoing deficit, coupled with an £87M accrued cash debt, resulted in Bromley becoming one of the 17 most financially challenged Trusts in the country. In June 2007 NHS London Turnaround Director Antony Sumara was brought in as Interim Chief Executive and by September 2007 a financial Recovery Plan was put in place. In December 2007 Ian Wilson was appointed Interim Chief Executive to take forward the recovery of the Trust. (AR0708) **Queen Elizabeth:** The past 12 months have again been extremely challenging for all of us,			Crisis, Finance	All three sites had severe financial difficulties

	not least because we still have some way to go to achieve a sounder financial position (AR0708:3)		
Notes on AR T2 (09-10)	With reference to the merger: 'Within the new Trust change will be gradual and incremental – evolutionary rather than revolutionary. It will be a rolling process. Staff, patients and local communities will all need to embrace and adopt new ways of working and new ways of using our local health services…. The new trust will aim to be "best in class" in all it does. It will be looking to recruit the best and the brightest people' (AR0809:3-4) The most important strategic objectives for the next year, as the Chief Executive will explain further in his summary, are to implement important service changes across our sites and to bring this Trust the financial stability that has eluded its legacy sites for many years. (AR0910:4) When I was first appointed to this post, the Chairman set out three principle objectives: to improve the quality and safety of patient care; to improve performance through waiting times; and to improve the financial position. I would honestly say that in the first two areas, there have been good signs of progress, but on finances we haven″t yet properly turned the corner. Our efforts are focused on doing this now, with a thorough restructuring, which will include, sadly, a reduction in our workforce but with actual redundancies as limited as possible.	Financial focus	The focus is on finance
Process			
Service Improvement Approach	T2: 'change will be gradual and incremental – evolutionary rather than revolutionary.' (AR 0809:3) T2: Trust priority: Developing a culture of continuous improvement through improving and standardising patient pathways across the Trust; driving service efficiencies in theatres and length of stay, improving the accuracy and management of data as well as information systems across the Trust to give good quality and timely performance information to all clinical and service managers which is the key to improving service outcomes.	T1: No Lean T2: No Lean	No explicit mention of Lean
Elements of Lean? (RIEs, PW, waste elimination etc)	With reference to controlling infection: 'Investigation of every infection case using root cause analysis to prevent re-occurrence' (AR0809:5)		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes	SLHT is a merger of Queen Mary's Sidcup NHS Trust, Bromley Hospitals NHS Trust and Queen Elizabeth NHS Trust		

Case 19

St George's Healthcare NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	David Astley since 2006. David was previously Chief Executive of East Kent Hospitals NHS Trust for seven years. There, he brought together three separate Trusts to form the new organisation and led a successful reconfiguration of Acute Services, servicing a population of 600,000.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	St George's has long focused on the management of its deficit. Over the past three years, we have generated almost £50 million of savings whilst treating more patients than ever before. We are not in financial balance yet, next year we must save a further £25.7 million, but in the first quarter of 2007 we have made a surplus – the first time in seven years. By 2008, the Trust aims to be in financial balance. Our challenge has been to deliver a better quality of service for less cost. This we have met and often to national recognition. (AR0607:4) "Improving our estate is integral to our transformation," (AR0607:6)			Finance focus	Financial focus for several years

Notes on AR T2 (09-10)	2009/2010 has seen St George's reach important milestones as it builds on its financial stability and growing reputation for clinical excellence... 2009 ended on a high note with the trust named as `Large Trust of the Year` by Dr Foster Intelligence, publisher of the Hospital Guide.	Success, recovery	The trust is building financial stability and has been awarded for performance
Process			
Service Improvement Approach	T2: 'The Trust has invested significantly in a Transformation Team to support the delivery of productivity and efficiency gains. In 2009/10 improvements equating to 50 beds capacity and 6% outpatient activity were achieved using a combination of excellent project management principles and LEAN. It is anticipated that further returns will be obtained in 2010/11 and 11/12 via similar principles with an enhanced roll out of LEAN and the Productive Theatre initiative plus the application of the NHS Institute Better Care Better Value indicators. Areas indicating highest and most rapid return will be identified utilising a combination of benchmarking and data from the Trust Service Level Management database.' Identified via Trust website search string (2/9/10). 'Just look at the tangible benefits delivered as a result of the productive ward initiative, an ongoing programme of better organisation and efficiency on our wards. Our ward staff now spend over 20 per cent more time directly caring for patients, and it's all down to their hard work and commitment, and a resolute focus on doing things better.' (Quality Account 0910:4) PW was implemented across 21 clinical areas at St George's during 2009/10, which included 479 patient bed areas… Looking ahead we are continuing to implement PW across the Trust and will continue to monitor where the programme is having a positive effect on productivity. We are also looking into how elements of PW processes can be applied to other important initiatives such as improving patients' privacy and dignity. (QA0910:19)	T2: Programme	Statement of 'significant investment' in a programme that uses Lean methodology
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Organisation wide		
Interpretation of Lean implementation	T1: No Lean T2: Programme	T1: None T2: Programme	
Other Notes			

Case 20

University College London Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	London				
Population/Location Characteristics	Situated in the heart of London, is one of the most complex NHS trusts in the UK, serving a large and diverse population.				The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	July 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Sir Robert Naylor, Robert Naylor has been chief executive at UCLH NHS Foundation Trust since November 2000, having previously spent 15 years as the chief executive of a teaching hospital in Birmingham	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	2007/08 was a challenging but successful year for University College London Hospitals (UCLH) NHS Foundation Trust. We began the year with a clear plan for delivering the second stage of our financial recovery and exceeded it comfortably with an income and expenditure surplus of £15.4million… Although patient care is always our number one priority, this year we paid particular attention to improving the patient experience. We know that our clinical services are excellent, and many of our facilities first class, but that doesn't necessarily add up to a positive experience. In recognition of this, we have endeavoured to embed a culture of helpfulness and a 'can do' attitude amongst all our staff through the Service Commitment, delivering for patients a responsive, friendly			Success, recovery	The trust has successfully achieved its goal of financial recovery

	service in every step of their journey. Results of the 2007 National Inpatient Survey indicate significant progress already		
Notes on AR T2 (09-10)	The Care Quality Commission (CQC) rated UCLH as excellent for both the quality of services and use of resources • Dr Foster rated UCLH as the top NHS hospital trust in their Good Hospital guide, where we scored impressively across a range of safety indicators, not least in having a low mortality rate, treating more patients than average for broken hips within the important two-day time limit and in providing innovative treatment to the majority of patients suffering heart attacks…Of all acute trusts nationally, the Trust was the second best type 1 A&E for performance against the four hour waiting time target [Our annual performance against the national four hour standard was 99.2% compared to 97.4% in 2008/09.]• University College London, the Trust's academic partner, rose to fourth place in the world university rankings The Trust is preparing for very challenging efficiency targets over the next five years, in the order of at least 5% in each year. This, combined with the potential reconfiguration agenda and development of polysystem models of care represent enormous challenges for the Trust.	Successful performance	The trust has performed successfully over the last year
Process			
Service Improvement Approach	T1: The achievement of the trust's financial plan, which included a £19 million efficiency target, evidences the achievement of efficiencies across the trust alongside the very significant management challenge of addressing the 18 week target. During the year the board has identified further opportunities for continued gains in the evaluation, management and communication of efficiency projects which lead to the appointment in January of external advisors to help facilitate the 2008/09 quality and effectiveness programme. T2: Given the national challenge in improving quality and reducing cost that will face all organisations over the next five years, UCLH has put in place a quality, efficiency and productivity (QEP) programme that will help clinical divisions and corporate teams make fundamental changes in how they deliver their services. The Trust is clear that in improving the services for our patients there is a need to review quality and efficiency together. There will be a focus on improving the processes that deliver clinical outcomes and experience.	T1: No Lean	T1; The AR identifies 'efficiency projects but nothing explicit that identifies Lean. T2: Again there is little explicit in the report with regards to Lean but a website search of the term Lean identifies a 'few projects.
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Website Search string: 'Lean' identifies Lean projects eg. Histopathology among others.	Projects	Identification of Lean based projects on the trust's website
Content			
Areas identified as under transformation	T2: UCLH's clinical services have already worked hard to improve the efficiency with which they treat patients during 2009/10, while at the same time improving the quality of their care. Key efficiency initiatives across the year have included: • increased use of programmed investigations, where a dedicated unit is used to coordinate		Echo of Lean in all of these listed projects, search string on website reveals Lean is a methodology used in the trust.

	different types of diagnostic test on the same day. This saves patients having to visit the hospital on different occasions and shortens pathways for diagnosis and treatment • improvements to discharge planning: specifically to increase the number of patients who leave that hospital before 11 am in the morning, to ensure patients arrive in their homes in reasonable time and there is space available for patients who are likely to be admitted during afternoon and evening times • inpatient diagnostics and treatment being delivered in a more timely manner which improves the patient recovery time and reduces length of stay The QEP work will be taken forward through five major work streams: • productive clinical services: making the clinical teams as efficient and productive as they can be, with a focus on reducing length of stay, cutting out unnecessary steps on patient pathway and improving the efficiency within outpatient clinics • procurement: getting the best value for money out of the contracts the Trust has with all our suppliers and that all purchasing is achieved at optimum value for money levels • asset utilisation: getting the best use out of the buildings that the Trust owns and leases, including rationalisation of our estate where possible • back office services: making the Trust processes more efficient including the use of business process management software, and exploring if any of our administrative or clinical support services can be provided on a shared basis with other trusts or by alternative arrangements to deliver a better value service. • workforce: minimising absence from work and the use of agency staff and improving recruitment and retention Website Search string: 'Lean' identifies Lean projects eg. Histopathology among others.		
Interpretation of Lean implementation	T1: No Lean T2: Few Projects	T1: No Lean T2: Few Projects	
Other Notes			

Case 21

West Middlesex University Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	West London: Hounslow, Richmond, Twickenham				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2250			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Fair	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Weak		
Leadership					
Chief Executive (name and background)	T1	T2			
	Tara Donnelly	Jacqueline Docherty DBE		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	This year we have been able to declare that we have managed the finances well; we have achieved breakeven duty for the year, for the first time in four years, and have made a surplus of £19,000. On top of good financial control, being paid for the high levels of activity we have undertaken has meant we have received considerably more income than planned. As we worked hard to reduce our waiting times, we were able to undertake all the extra activity – such as additional clinics and theatre lists – entirely in-house.			Success, recovery	
Notes on AR T2 (09-10)	'During 2009/10 we made significant progress with some excellent results and Achievements…Our ward based staff now spend more direct time with patients as a result of our service improvement series, which aims to improve efficiency and streamline the patient journey' (AR0910:4) 'Our financial situation remains a key issue for us and is something we are working very hard to resolve. As well as our sustained work in reducing wastage and improving efficiency by innovation, we are working closely with our commissioners and the strategic health authority to ensure we meet our obligations' (AR0910:8)			Success, recovery	The theme of financial recovery continues in T2

Process			
Service Improvement Approach	T1: The Productive series of work takes this principle to the next level with ward based teams redesigning the way they work to create more time for direct patient care. This is very exciting work, and with its roll-out across the hospital, we can't fail to increase the satisfaction levels of our patients, as well as our staff. T2: Productive Theatres	PW	PW across the organisation
Elements of Lean? (RIEs, PW, waste elimination etc)	PW (T1) Productive Theatre, Productive Operating programme (T2 QA0910:22)		
Content			
Areas identified as under transformation	[regarding the Productive series of work] 'we have made a 20% improvement in the amount of time spent on disciplinary cases and a 17% reduction on the amount of time spent on sickness management cases (AR07/08:.5)		
Interpretation of Lean implementation	T1: PW T2: PW	T1: PW only T2: PW only	
Other Notes			

Case 22

Whipps Cross University Hospital					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Waltham Forest				
Population/Location Characteristics	a diverse local population with a wide variation in levels of deprivation and health needs, ranging from the most deprived five per cent of electoral wards in England to amongst the most affluent 30 per cent				The population determines the demand of hospital services
Staff	3015			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Weak	Weak		
Leadership					
Chief Executive (name and background)	T1	T2			
	Dr Lucy Moore, appointed as Chief Executive in November 2004 and has led the Trust through a significant turnaround process.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	A rigorous turnaround programme of savings and efficiencies means that our financial position is better than anticipated and we believe that we will break even over the next few years to 2009/10…Our clinical strategy sets out our vision both for Whipps Cross and the strategic partnerships – old and new – which we must forge across North East London and beyond. (AR0607:6) The Trust still has work to do to overcome its cumulative deficit but the achievement of a surplus in 2007/08 is extremely encouraging. The future of Whipps Cross was given a significant boost this year with the recommendation made by Prof Sir George Alberti - the Government Health Tzar - tasked with assisting a review of Outer North East London Hospitals. Prof. Sir George Alberti recommended that Whipps Cross should continue to operate as full acute hospital, a future aligned with our own clinical strategy. This has meant			Success, recovery	The year has been successful in terms of financial recovery and good performance.

	that we have been able to push forward with our plans to rebuild the hospital, and the Trust Board approved an Outline Business Case for the next phase of hospital development in March 2008.		
Notes on AR T2 (09-10)	The Trust has many challenges, including its financial position and ageing estate... The Trust's biggest focus in the last year has been its Patient Experience Revolution, a root-and-branch approach to improving patient care across the hospital in response to our patients' wishes.	Performance issues	The statement seems to suggest that there are significant performance issues in the trust.
Process			
Service Improvement Approach	T2: 'In Your Shoes' workshops, where over 500 patients, carers and staff were invited to share their experiences of the Trust with senior staff, both on a one-to-one basis and in group workshops described in QA0910:5. T2: 'The whole Histopathology team has been engaged in the project, working with other departments across the Trust as well as colleagues in other Trusts. Implementing LEAN methodology has allowed the Whipps Cross team to examine the processes across the Trust that impact on the Histopathology service and identify problem areas and bottlenecks within the system.' (AR0910:12)	T2: Few projects	Identifiacation of Lean methodology in the trust relating to a few projects approach.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: 2-3 wards (PW) and histopathology: 'Histopathology gets LEAN!' is headline in staff magazine Magazine (March 2010)*: "Since September last year, the turnaround time for specimens received by Hisopathology has dramatically improved. From collection to the issue of the electronic report, there has been an increase by 38 per cent for turnaround within three days and 47 per cent for the process to be completed within seven days.* The Trust is one of only eight pilot sites in England to work with NHS Improvements on a national service improvement programme.		Identifiacation of Lean methodology in the trust relating to a few projects approach.
Interpretation of Lean implementation	T1: No Lean T2: Few projects	T1: No Lean T2: Few projects	
Other Notes			

Case 23

Whittington Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	London			L	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Islington and west Haringey				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2000			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	David Sloman, joined 1st November 2004. He was previously Chief Executive of Haringey Teaching Primary Care Trust.	Rob Larkman, joined Trust in Sept 2009 and has a strong financial background and worked in advertising and management consultancy before joining the NHS in 1993.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	This has been a particularly challenging year for the Whittington. Against the back cloth of a challenging financial environment we opened our large new building whilst continuing our commitment to deliver improved services to patients at all times. By generating a surplus we have now repaid the final tranche of deficit that has been carried forward from previous years which puts the Whittington in a better position financially than it has been for a number of years. In addition, as a reward for generating this surplus the Trust was given some additional income in the current year.' (AR0607:15)			Success, recovery	Financial recovery
Notes on AR T2 (09-10)	The new CE writes: "for many years I have been aware of The Whittington's reputation as a high performing and popular local hospital. Since my arrival I have been impressed by the high standards which The Whittington sets for itself and by the skills and dedication of the staff…This has been at a time of intense speculation about the future of The Whittington and its services when we have taken part in			Change, uncertainty	The trust has faced uncertainty during T2.

	important strategic reviews of the future of the organisation" (AR0910:3) At The Whittington clinical management do their upmost to be as visible and central to the working day as possible…The Whittington is also now in its fourth year of the visible leadership practice, (AR0910:26)		
Process			
Service Improvement Approach	T1: There is the 'on the floor' initiative, where members of the trust board work in front line roles, from reception to the emergency department. It is a chance for the directors to experience a range of roles and to have the opportunity to talk to staff and patients alike.		
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Lean Thinking applied to anaesthetic room, reported in staff magazine, basically application of 5S at the moment. Early stage Lean (T1) 'In June 2008 Dr Chekairi and his team of 'lean champions' implemented lean thinking into the anaesthetic room and three months on lean thinking has infiltrated into all areas of the theatre department, including the scrub side and the recovery unit. This has made theatres a cleaner, safer, happier and more efficient place for patients and staff alike…a 'lean club' coming to the Trust soon.' (LINK magazine Dec 2008:7) Based around 5S: We based the reconfiguration and standardisation of the anaesthetic rooms on using visual control so no problems are hidden, which encompasses 5S (p.7) T2: 'We are part of the productive ward programme in which more nursing time is freed up for direct patient care and our nurse to bed ratio is 3:1, the fourth best in London acute hospitals. (AR0910:25) T2: NVQ 2 in Lean techniques available to staff	T1: Few projects T2: Few projects	T1: A few projects based on Lean methodology are identified. T2: The use of Lean training alongside PW suggests that the trust has continued its 'few projects approach.
Content			
Areas identified as under transformation	Anaesthetic room, Theatres and Wards. T2: Lean Training		
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes	In April 2007 the Whittington was rated by Dr Foster intelligence, a leading independent hospital guide, as one of the top hospitals in the country.		

North East

Case 24

City Hospitals Sunderland NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Sunderland and North Easington				
Population/Location Characteristics	ethnic population is relatively small				The population determines the demand of hospital services
Staff	5000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	330,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	July 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Ken Bremner	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'I described last year as a bit of a yo-yo year'. If that was the case, then by comparison, this year has been like a ride on the big dipper'.In 2006 we embarked on our Financial Recovery Plan which meant a period of significant change…have emerged in 2008 a leaner and more sustainable organisation ready to face the challenges ahead. (Chairman) 'As I write this report I have just been reading the media's summary of last year's NHS Staff Survey. They summed up the whole survey – which is a reasonably detailed one now with 144 questions – into one sound bite – only 46% of respondents believed their organisation had quality of care and safety as their number one priority. If that is how our staff feel, then how does that impact on patient experience? A&E have struggled this year to keep up with demand, particularly early/late evening, and is an area we need to improve on going forward. (Chief Exec). Let me also take this opportunity of thanking all our staff, for what has been a difficult year. There is			Performance issues	Organisation has recovered financially but the year has been challenging in terms of performance and meeting A&E targets.

	no doubt that our finances are on a much sounder footing than they were 15-18 months ago, and some of the action we have had to take has been painful, but I am pleased that we have done it *without* making anybody in the organisation redundant		
Notes on AR T2 (09-10)	Operational performance has again been generally strong with virtually all national targets being delivered or exceeded. We had set our plan to deliver a surplus of 2m with an internal cost improvement target of 8.6 – 72% over what we delivered in 2008/09	Successful performance	Performance reported as generally successful
Process			
Service Improvement Approach	T1: 'Following on from the learning and knowledge sharing of continuous improvement techniques with Nissan and the documented success of applying lean principles in the NHS, the Trust is now in the process of developing and embedding this approach within the organisation' A document outlining the Trusts Lean approach is identified on the website. T1: The Trust has been successful in securing regional funding to appoint facilitators in order to implement "lean" practice T2: Central Lean team. Lean/Six Sigma approach ongoing: 'A key element driving these changes is our adoption of Lean and Six Sigma (a system of process improvement) as our continuous quality improvement methodology.' T2: The Trust has been in the process of developing and embedding the Lean approach within the organisation. The focus has been on the education of staff and the development of Lean awareness and training sessions, and coaching and empowering staff in simple Lean tools and techniques. We have also set out a process for carrying out projects and continuous improvement activities.	T1: Systemic T2:Systemic	The organisation shows commitment to Lean at an organisational and strategic level The organisation continues to show commitment to Lean at an organisational level
Elements of Lean? (RIEs, PW, waste elimination etc)	Lean steering group, Lean awareness and training		
Content			

Areas identified as under transformation	T1: During 2007/8 City Hospitals has sustained the work detailed in our last annual report. We have embedded the continuous improvement techniques developed through our partnership with Nissan and the "lean" tools and techniques previously introduced into the organisation have been supplemented through the appointment of a new Learning and Organisational Development Manager who is a Lean/Six Sigma practitioner to lead the implementation process in the organisation. Lean/Six Sigma is an approach to business improvement that focuses on the reduction of variation in all work processes. We are starting to see a cultural change within the organisation which will enable us to attain our short and long term objectives through teaching front line staff to manage their organisational processes, structures and culture more effectively. Further clinical pathways have been reviewed to ensure that all our processes add value to the patient and improve the quality of our care. A Lean Strategy and Framework is in development. This will focus on delivering training programmes, coaching staff and empowering them in simple lean tools and techniques. The strategy will set out a structure within which key projects can be delivered and align these to the Trusts objectives and performance measures. This forms part of our drive to improve service delivery through using "lean" techniques to improve our staff's understanding of processes which impact on our patients. T2: Roll out of Lean and Six Sigma programme to all staff; Following development of a new Vision for the organisation, the Trust has: □ appointed a new Organisational Development Manager and team with external business experience and rolled out training to familiarise staff with "Lean" tools, techniques, terminology and methodology.	T1: Systemic T2: Systemic	Talk of 'embedment' suggests that the implementation of Lean is not intended to be one off. The organisation continues to demonstrate commitment to Lean implementation across the organisation
Interpretation of Lean implementation	T1: Systemic T2: Systemic	T1: Systemic T2: Systemic	
Other Notes			

Case 25

County Durham & Darlington NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Durham and Darlington				
Population/Location Characteristics	an area where health inequalities are some of the most testing in the country with high rates of smoking, high teenage pregnancy rates, obesity, alcohol abuse and heart disease and where there are significant numbers of people with long–term illness			health inequalities	The population determines the demand of hospital services
Staff	4700			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	550,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	01 February 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Stephen Eames, November 2007 Stephen has 16 years experience as a Chief Executive in a range of NHS organisations. He joined us from Mid-Cheshire Hospitals NHS Trust, which he had successfully led and which was the most improved Trust nationally in the Healthcare Commission Annual Healthcheck for 2006/07.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Our first full year as a Foundation Trust was a successful one for the Trust... The Trust also ended the year in a strong financial position, achieving a surplus of £7.9 million.... Over its first five years, this has been a consistently high performing and successful organisation, delivering against targets for shorter waits, twice a three star trust, delivering its financial duties despite huge financial challenges and the need to make savings – while also managing a big change agenda across its sites. We have begun a major			Successful performance	No issues reported

	review of our services, entitled "Seizing the Future"… as one of the largest NHS Foundation Trusts in the country, we need to place ourselves in the vanguard of change and demonstrate that we can compete with the best on a national basis.		
Notes on AR T2 (09-10)	In October 2009, we successfully implemented the proposals contained within our Seizing the Future programme on which we had formally consulted during 2008/09. The implementation went smoothly, thanks in no small part to strong clinical and managerial leadership and engagement and we are already seeing the benefits of the changes in terms of improved patient care…In terms of our services, we were rated Good/Excellent by the Care Quality Commission for 2008/09 and expect to retain this rating for 2009/10. Our continued strong financial performance should ensure that we retain our excellent rating for the use of resources.	Successful performance	No issues reported
Process			
Service Improvement Approach	T2: The Trust recognises that the future will hold some significant challenges. Our response to these challenges must be to put patient safety and quality of service provision right at the heart of all we do whilst seeking to identify and reduce inefficiencies and waste. I have, therefore, issued a "Quality Challenge" to staff to work together to help the Board identify where the organisation can make quality and efficiency improvements without compromising patient care or long term success. Alongside this initiative I have also launched the Towards 2014 programme. The next five years will present us with the tough challenge of driving up the quality of our services for patients against the back drop of a difficult economic climate. As part of the Towards 2014 programme, we have identified eleven areas where we believe we can improve the way we do things, enabling us to provide better care whilst reducing our costs, in support of our aim to become the best foundation trust in the country.	T2: Echo Lean	An echo of Lean eg. removing waste but no explicit articulation of Lean methods
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: PW identified T2: None (Towards 2014 programme echoes Lean)		
Content			
Areas identified as under transformation	Wards and organisational change (lean is not explicitly identified)		
Interpretation of Lean implementation	T1: PW only T2: No Lean	T1: PW only T2: No Lean	
Other Notes			

Case 26

Gateshead Health NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3072			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	200,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	5th January 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Ian Renwick, a qualified accountant. was appointed as the Trust's Chief Executive in August 2006, having been the Director of Finance and Information at the Trust since 2001	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'This has been another challenging, but very successful, year for the Trust. We have continued in our drive to improve standards of care and we are well placed to meet the continuing challenges facing the NHS generally and most importantly to deliver high quality healthcare services to the people who choose our service(p.3) …the Trust will continue its work with local pathfinder organisations – including the SHA – and Virginia Mason Medical Centre in Seattle as we look to introduce lean management techniques and approaches to the hospital setting. (p.23)			Successful performance	No issues reported
Notes on AR T2 (09-10)	2009/10 was our most successful year yet as an NHS Foundation Trust. The clearest demonstration of this has been the awarding of double 'Excellent' by the Care Quality Commission for our Quality of Services and Use of Resources in the NHS Annual Health Check…we have had another successful year financially (p.4) Patient numbers have continued to increase and the Trust has made significant improvements in our services and facilities which, alongside outstanding performance for the			Successful performance	No issues reported

	year (both clinical and financial), creates a solid foundation for us to continue to deliver a high quality, patient focused service to the population of Gateshead and beyond. The Trust's vision has been rolled out across the organisation and is now embedded in the day to day delivery of services, placing patients at the very heart of all that we do. (p.10)		
Process			
Service Improvement Approach	T1:'the Trust will continue its work with local pathfinder organisations – including the SHA – and Virginia Mason Medical Centre in Seattle as we look to introduce lean management techniques and approaches to the hospital setting. The Trust has embarked on an ambitious productivity project, employing lean management techniques as part of its longer term efficiency plans and this has been extensively publicised and discussed with staff at all levels in the organisation' (p.11) T2: The Trust's approach to managing variation in performance and to embedding the North East Transformation System Programme (NETS) into the day to day running of the organisation will continue to secure significant improvements in the way we deliver care giving added value for both patients and staff. This continued programme of improvement will form a key element of our strategic priorities over the coming years. We are committed to providing a range of opportunities for staff at all levels to develop the skills and knowledge in applying improvement techniques, tools and methodologies in their everyday work, as well as developing their capability to initiate, lead and sustain improvements in patient care. For the last three years, the Trust has been working with other NHS organisations in the North East, and a hospital in Seattle, USA, to introduce improvement methods called 'lean'. These methods are used widely in different industries and settings across the world, and increasingly in health services. At the heart of this work is looking from a patient point of view about what really matters, and working with staff and patients to ensure our services match this. We use a number of improvement techniques, and have particularly focused on week long workshops where staff have the opportunity to spend time out from their department to work with trained facilitators, testing their own ideas as to how to improve their service. These workshops have helped staff to make real changes for the benefit of patients and also to learn how to use the improvement methods on an ongoing basis, and therefore drive continuous improvement across the Trust.(p.48)	T1: Programme T2: Systemic	The trust identifies Lean implementation as an ambitious project T2: talk of embedment of Lean into daily work and links Lean to strategic priorities and training
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2:Our work to remove waste from our systems and processes to improve the quality and safety		

	of the services we provide will continue, using the methodologies of the North East Transformation System (NETS). The Trust has already held around 20 week-long intensive improvement events, with more planned over the coming twelve months. We are also beginning to see significant financial savings accrue as a consequence of this work.(p.12) T2: Twelve wards have participated in the 'Releasing Time to Care' programme. T2: We have actively involved patients in lean work and service redesign. An example of this is the work being carried out planning our new Emergency Care Centre. (p.51)		
Interpretation of Lean implementation	T1: Programme T2: Systemic	T1: Programme T2: Systemic	
Other Notes			

Case 27

North Tees and Hartlepool NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	East Durham, Hartlepool, Stockton on Tees and surrounding areas and part of Sedgefield				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	5700			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1 December 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Alan Foster from Sept 2007 but before that Alan was director of finance	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Looking back on my first full year I talked about a year of recovery and now, as I write this, I am reflecting on an eight month journey which has taken us to a very new place; that of being an NHS Foundation Trust…We also embarked on another journey by becoming one of six organisations in the NHS North East to embrace the Toyota Production System principles which we are using to improve safety and eliminate waste.			Successful Performance	No issues reported, part of NETS
Notes on AR T2 (09-10)	North Tees and Hartlepool NHS Foundation Trust has enjoyed a very successful second year since it was authorised as a Foundation Trust in December 2007. Through effective management we have been able to sustain financial stability and help drive forward investment plans to deliver service and quality improvements for our patients and their carers. Our emphasis on workforce development is key to our quality approach to ensure staff are equipped to lead improvements. (p.9) The Board is conscious that the quality of service the Trust's operational and financial performance provides through its LEAN development ethos is as a result of active			Successful Performance	No issues reported

	engagement and support from all staff which includes front line staff, both clinical and non-clinical. (p.10)		
Process			
Service Improvement Approach	T1: Key to the future success of the Trust is the need to embed the principles of LEAN working...Pivotal to this is the need to deliver a significant cost efficiency programme over the next three years - £7.2m of recurring cost efficiencies are required in 2008/09. This will be delivered by better utilising our asset base, applying Lean methodology to our work flows and using our biggest asset, our staff to best effect and at the right levels in terms of skills and competencies. (p.39) T2: LEAN developments have continued to be introduced... These innovations continue to be supported by a Leadership Development Programme	T1: Programme T2: Leadership development and Lean	The AR talkls of embedment but the goal is identified as cost efficiency
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: One of six strategic objectives: Putting Patients First; developing an organisational culture of adding value to patients, • through safety, quality and LEAN actions (p.7) T1: We have signed up to the Productive Ward concept releasing time to care which our existing senior nurses will deliver to enhance the patients' environment and complement our putting patient first programme which embraces lean principles adapted for healthcare by the Virginia Mason Medical centre in Seattle. (p.20) T2: LEAN developments have continued to be introduced, which include the Productive Ward within theatre and the community. In addition, 17 rapid improvement workshops have taken place as part of the LEAN programme. These innovations continue to be supported by a Leadership Development Programme which has enabled over 100 business projects to be realised. T2: Over 1,700 staff received some level of training in LEAN methodology and of those staff 17 qualified the Trust's Accredited Certified Leader programme in LEAN Management Techniques which attracts 60 credits at Masters level from Teesside University and there are currently an additional 30 staff in the final stages of assessment.	T1: Programme T2: Systemic	Lean and PW The organisation is committed to embedding lean by tying it to leadership development and training
Interpretation of Lean implementation	T1: Programme T2: Systemic	T1: Programme T2: Systemic	
Other Notes	Part of the North East Transformation System (NETS) an SHA programme based on Lean methodology		

Case 28

Northumbria Health Care NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	North Tyneside and Northumberland				
Population/Location Characteristics	Our geographical spread is the largest of any trust in England, stretching from Tyneside in the South and East, to the Scottish Border in the North, and to Hexham and Haltwhistle in the West of the County.				The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	550,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st August 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Jim Mackey	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	For the second year running we have has been ranked in the top 40 trusts by leading bench marker CHKS and continues to perform well both financially and in delivering of high quality patient care…Being an NHS Foundation Trust has allowed us to achieve many things this year. Our ability to make quick investment decisions has given us the freedom to invest in new procedures such as introducing MRSA screening for all emergency admissions.			Successful performance	No issues reported
Notes on AR T2 (09-10)	The year 2009/10 has been another extremely successful year for us. We have again been recognised as a top performing Trust with our successes including continued acknowledgement by CHKS as a top 40 hospital, being awarded "Excellent" status by the Care Quality Commission and maintaining a very strong financial position.			Successful performance	No issues reported
Process					
Service Improvement Approach	T1: Lean Thinking in Healthcare 1 Day event led by Dan Jones, Sept 2007. T2: Passing references to 'Lean' identified through website search, eg. 'Our services will continue to be **lean** and innovative', 'Key focus			T1: Tentative	T1: One day event suggests the trust is tentatively looking at implementing Lean.

	is in reducing average length of stay and making this part of our business **lean** and productive'		T2: Website search reveals that Lean is being used in the Trust but this does not appear to be in a coordinated fashion.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: Tentative T2: Few Projects	T1: Tentative T2: Few Projects	
Other Notes			

Case 29

South Tees Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Middlesbrough, Redcar and Cleveland and Hambleton and Richmondshire				
Population/Location Characteristics	It is a district general hospital for: • around 274,000 people living in Middlesbrough and the local authority area of Redcar and Cleveland • 124,000 people in an area stretching from the North Yorkshire Moors to the central Pennines, the borders of York District in the south and the borders of Darlington in the north				The population determines the demand of hospital services
Staff	6675			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	274,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT2	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
		May 2009			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Mr Simon Pleydell, joined the trust as chief executive in October 2003. He has worked in NHS management since 1980	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	In October 2007, the quality of our services were recognised as 'excellent' by the Healthcare Commission, placing the Trust in the top 19% of acute organisations nationwide and the only trust in the North East to achieve the accolade. In addition to this, for the eighth year running the trust was named as one of the UK's top forty hospitals by the independent benchmarking expert CHKS and was also officially recognised as the country's top performer in the Dr Foster 'Good Hospital Guide'…Looking back, it can be easy to forget the challenging journey we have had over the last four years in terms of our financial position. At the end of 2007/8, it was pleasing to report that the trust had made a £17.3m surplus allowing us to recover our accumulated deficit one year earlier. In addition to this surplus, significant investments were also			Recovery, success	Successful performance following a period of financial recovery.

	made over the year to improve patient care and further develop services across both our hospitals. In December 2007, the Trust was awarded the prestigious accolade of 'acute healthcare organisation of the year' at the annual Health Service Journal awards, which is another reflection on our dedicated staff and the significant achievements we have made. **Personal message from the Chair:** In my last full year as Chair I would like to pay tribute to the dedication, skill and commitment of staff over the last 4 years. My first two years saw us face a Public Interest Report for the financial situation we were in, and a poor Commission for Health Improvement report. After wide-ranging and sustained reviews of all the services we ran, we brought our finances back in to order, culminating in a first rate year for performance and financial management. The awards and accolades we received during the year for our quality of care was a tribute to the way in which we managed our recovery plan.		
Notes on AR T2 (09-10)	The organisation was rated as 'excellent' for quality of services we provide and 'good' on finances in the Care Quality Commission's annual performance ratings and was one of only five in the country to be named as a UK top 40 hospital for nine consecutive years…The trust did have to make some tough decisions in the best interests of patients when we temporarily closed children's and maternity services at the Friarage Hospital, although it did illustrate the professional way staff managed a very difficult situation. (The short-term changes were made due to an unprecedented level of paediatric staffing issues across both the trust's hospital sites, including consultant retirements and long-term consultant sick leave. (p29)	Successful performance	No performance issues reported
Process			
Service Improvement Approach	T1: The trust is one of the first in the country to take part in the next stage of the productive ward - releasing time to care initiative - which aims to release more nurses' time to care for patients. By creating a really strong focus on the processes of care within the ward setting, it is hoped Time to Care will significantly increase the amount of time spent providing direct care for patients, improving the experience for staff and patients. It also allows staff to organise the ward so that space works for them – rather than against them – saving time, effort and money by removing waste activities from processes and reinvesting that saved time into making care more reliable and safe. South Tees has been a learning partner with the Institute of Innovation and Improvement from September and since then ward 34 (orthopaedics) has helped to develop the modules, which are now being used as the building blocks in the Time to Care initiative. Staff have already implemented several modules on the ward and are in the process of auditing their work. They also shared their progress to-date with Health Minister Ann Keen, who visited the ward during the year. Further clinical areas have now been invited to	T1: PW	PW only, no explicit mention of Lean as part of the Great pathways project

	take part in this initiative. T1: The Great Pathways Project, which looks at delivering through improvement, is led by a network of NHS chief executives and is supported by the NHS Institute, McKinseys Consultants and academic experts from the University College of London. South Tees is one of 17 trusts involved in the national project, which aims to build on and improve existing pathways by identifying and testing out new models and frameworks from other healthcare systems and adapting these for an NHS context. During the year work began in two clinical areas – stroke and fractured neck of femur. T2: We have identified our ability to continue to drive improvements in service quality and patient experience is dependent on our ability to harness the knowledge and enthusiasm of staff to improve arrangements for admission and discharge and improve the patient pathway. Change in the NHS is inevitable but if we want to continue to focus on providing high quality care not only in 2010/2011 but in the next three to five years, we recognise it will require every member of staff working together, using all their talents, ideas and skills to look for ways we can do things differently, innovate, drive out waste, and push up productivity. (p.21)		
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: wards and stroke and neck of femur pathways T2: We now have 31 wards and departments on the programme and working with the University of Teesside will launch accreditation of Time to Care with the first cohort due to go through in the summer of 2010. The spinal injuries unit, for example, has reinvested the time saved through organising their ward by improving the patient experience. The team now organise weekly social events for the patients including helping them to leave the ward area to watch a DVD in another area of the unit (recreation room), pizza nights and pub quiz nights. These events mean patients can be together - essential for social rehabilitation – and also help spinal injury patients to integrate with individuals outside of the ward environment. Other examples of where Time to Care has saved time – and money – include: · 264 hours saved per year by improving nursing handover, including the introduction of handover boards · 444 hours saved per year by introducing a key lock system which has saved staff time looking for keys with less interruption and noise levels on the wards · Improving the laundry process so it is more accessible and timely for wards		
Interpretation of Lean implementation	T1: PW T2: PW	T1: PW only T2: PW only	

Case 30

South Tyneside NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics	prevalence of smoking and other lifestyle factors which have had a significant impact in this area; history of high levels of heavy industry and mining			Lifestyle issues	The population determines the demand of hospital services
Staff				Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	152,785				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	Ist Jan 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1		T2		
	Lorraine Lambert - a Chief Executive since 1993, with 29 years NHS experience. She has a track record in transforming organisations and change management with a strong reputation for delivering challenging objectives in short timescales		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	I am proud of the progress we have made over the last 10 years in turning what was a good service into an excellent service, through reconfiguration and modernisation. We have also turned a significant deficit into a surplus and are now rated as one of the top 7 Foundation Trusts by Monitor and for the fourth time in five years, in the Top 40 hospitals in England by the independent benchmarking company CHKS. (p3) Our desire to provide services as quickly as possible for our patients and to the highest standard can be seen in the extensive work we have been undertaking for the past three years to look at our patient pathways and to redesign them in a way that puts the patient at the centre and builds the service around them at each stage. Scope also exists for a review of capacity			Successful performance	No issues reported

	management across the various provider sites and there is no doubt that there are potential efficiencies in the system which could be achieved through critical review of workload and capacity management.		
Notes on AR T2 (09-10)	South Tyneside Foundation Trust moves forward from a strong position. With a history of meeting its service and financial targets our Trust has been at the forefront of service change and this experience will stand us in good stead in the challenging times ahead… As we look ahead we have a major agenda facing us. Not only are we looking to continuously improve quality, we are looking to do so at the same time as delivering the financial efficiencies which lie ahead. … Once again in the last year we have met and exceeded the targets set for us. We received ratings of "Good" for quality of services and "Good" for the use of resources from the Care Quality Commission. In addition we were given ratings by Monitor of 3 for financial risk, Green for Governance and Green for Mandatory Services.	Successful performance	No issues reported
Process			
Service Improvement Approach	T1: Work has continued to build upon the programme which we launched last year. Our desire to provide services as quickly as possible for our patients and to the highest standard can be seen in the extensive work we have been undertaking for the past three years to look at our patient pathways and to redesign them in a way that puts the patient at the centre and builds the service around them at each stage…As I highlighted last year our biggest piece of ongoing work is our Site and Service Redesign programme (p.6). Detailed work has been done to review pathways of care to make sure that they are fit for purpose for the future and to ensure that the implications for the whole care pathway have been considered to address any potential service improvements both within the organisation and across service boundaries which could support the longer term provision of safe and sustainable care. (p.14) T1: Effective performance monitoring remains key to our approach to quality and we have developed our business intelligence systems to allow managers the opportunity to access up to date information about performance in respect of key targets to assist them in day to day decision making. T2: Within our own organisation we have continued our programme of Site and Service Re-design and some of the early transformation schemes are now well advanced… Looking critically at what we do is an important part of service improvement and this is a fundamental part of our work. A good example of this has been our Productive Ward Programme. The project, which aims to look at how wards work and the way jobs are done, is designed to release nursing time spent on unnecessary or badly designed jobs and allow them to focus on direct patient care.	T1: Few Projects T2: Programme	T1: Echo of Lean methodology although it is not specifically mentioned in T1. Principles of Lean such as value and designing the process around delivering value at every step is present in the description of the Site and Service redesign programme T2: The headline 'getting leaner' is evidence that the organisation's redesign programme is based upon Lean methodology

	T2: Sub heading: **Getting Leaner!,** We continue to look for more efficient and effective ways to deliver care and one of the techniques we have been using known as a Rapid Process Improvement Workshop (RPIW) brings together representatives from partner organisations, to examine a service area in detail to identify where improvements could be made. .		
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: This work has focussed initially on a number of key service areas:- ■ The emergency pathway ■ The elective or planned care pathway ■ Stroke services ■ GI services ■ Children's services. (p.14) T2: The initial three pilot wards have been so successful that we are now extending the programme to other wards and to theatres. This theme of working more productively and effectively to improve quality within existing resources is one of the major themes of NHS transformation. We have an excellent track record in this area and both within the Trust and working with our partners, we see this as a very important element of public accountability (p.9) T2: One of the topics looked at in the year [using RIEs] was our pathway for managing children with Bronchiolitis…A Community Clinical Assessment Tool has been developed and distributed to GP surgeries and walk-in centres which will guide both medical staff and parents in the diagnosis and treatment of the condition, including the procedures that will be followed if hospital care is necessary. A standardised care plan for hospital management was implemented and we work closely with colleagues in community services to co-ordinate follow-up treatment and home support. As part of the programme we are helping to minimise the length of hospital stays by working with a new pilot children's community nursing team. (p.11)		
Interpretation of Lean implementation	T1: Few projects T2: Programme	T1: Few projects T2: Programme	
Other Notes	scholarships awarded to two members of staff to visit Flinders in Australia (2007);		

Case 31

The Newcastle-upon Tyne Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North East			NE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Newcastle Tyne and Wear				
Population/Location Characteristics	One of the most popular cities in the UK, Newcastle already has an extremely diverse and multi-cultural community.				The population determines the demand of hospital services
Staff				Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	285,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		Ft1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st June 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Sir Leonard R Fenwick CBE; has worked in the NHS since he joined aged 18 as a management trainee, working his way up towards senior management developing a profound understanding of the organisation and workings of the NHS.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	*The year saw a time of substantial and exciting change. Against the backcloth of our new build programme on the Freeman Hospital and Royal Victoria Infirmary sites, the organisation has also been undergoing a transformation as we sought to make the most of our freedoms as a Foundation Trust.* A strong performing trust with a proven history of innovation and pioneering medicine.			Successful performance	No issues reported
Notes on AR T2 (09-10)	The Newcastle upon Tyne Hospitals can with pride reflect upon a most productive year. Our commitment to excellence and all this entails was reaffirmed with continuing focus on *"Quality of Services"* and *"Use of Resources"* being of the highest standard. This was recognised by CHKS, who provide national benchmarking, when we were awarded a Top 40 Hospital rating for the tenth successive year, one of only five Trusts nationally to obtain this accolade…In coming years, our strategic direction in serving the North East of England will be severely tested by the			Successful performance	No issues reported

	impact of the economic downturn on public sector finances and associated investments. We believe we are best placed as any in our sector to bring about quality of outcome within constrained revenues and further build upon an ever diversifying service portfolio.		
Process			
Service Improvement Approach	T1: Productive Ward T2: our vision of a single, integrated organisation, with healthcare professionals working collaboratively across the continuum of care to deliver a better health service for patients in Newcastle. We cannot afford to work in the old way any longer, it is too wasteful. The need for seamless care without interruptions caused by the needs of differing organisations has become essential.	T1: PW T2: No Lean	No mention of Lean in T2
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Some 57 of the 90 Wards were involved in the programme over a 6 month period. The project team included a project lead and 8 facilitators. The facilitators (nurses and physiotherapists) from various clinical backgrounds were secured for the duration of the programme being split into 3 teams and based on all hospital sites. An intensive one week training programme was provided in collaboration with the Service Improvement Team.	T1: PW	Implementation of PW is clear but re is no indication that it was continued in T2.
Interpretation of Lean implementation	T1: PW T2: No Lean	T1: PW only T2: No Lean	
Other Notes			

Case 32

Aintree University Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	North Liverpool, South Sefton and Kirkby				
Population/Location Characteristics	The population served by Aintree includes some of the most socially deprived communities in the country, with high levels of illness creating a high demand for hospital-based care. Merseyside has some of the worst rates for heart disease and cancer in the UK , and has also been associated with a culture among patients of low empowerment over their health status and a reliance on the availability of hospital care. North Merseyside is an area of high unemployment			High levels of deprivation	The population determines the demand of hospital services
Staff	3463			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	330,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st August 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Fair	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	James Birrell since July 2001. Background is Finance.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	A year of considerable change where many key Executive Directors have left and new ones appointed including the Chairman, the Dir of Ops, the Dir of Nursing and the Medical Director. (AR0708) Patients are waiting too long in A&E: 'despite the progress we have made, at too great a risk of hospital acquired infection. These two areas will be our highest priorities for 2008/09.' (AR0708:7)			Performance issues	A year of change with executives leaving, the CE's statement identifies performance issues
Notes on AR T2 (09-10)	Annual Plan reflects: 'Our financial and operational performance was strong. The year was finished with a surplus of £3.3 million, 10			Successful performance	No performance issues highlighted

	per cent above our plan…' (p.3) The Trust also did well re. national standards.		
Process			
Service Improvement Approach	T1: The Trust has a newly established Performance and Service Improvement Team which aims to ensure that this work proceeds quickly, supported by a standardised project methodology and use of generic tools and templates	T1: Programme	The AR discusses a 'methodology' in T1 later identified as Lean (see 'content')
Elements of Lean? (RIEs, PW, waste elimination etc)	T1:We have introduced the LEAN programme focusing on improvements in outpatients, non-elective admissions and emergency care (AR0708:12) T2: PW is mention in Annual Plan (0910:28)	T1: Programme T: PW	The AR specifically identifies a Lean programme in T1. In T2, only PW is identified.
Content			
Areas identified as under transformation	During 2009/10 the team will focus upon: • Providing capacity to support staff in undertaking service improvements; • Achieving objectives within the 'Outpatient Improvement strategy', the 'Unscheduled care strategy' and initiatives to improve Theatre utilization; • Implementation of a Standard project methodology for Aintree; • Development of Tools and templates to make it easier for staff to lead improvement work; • Providing facilitation to support service change and project management	T1: Programme	Further support that a programme approach is taken by the trust during T1
Interpretation of Lean implementation	T1: Programme T2: PW	T1: Programme T2: PW	
Other Notes			

Case 33

Blackpool, Fylde and Wyre Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Blackpool, Fylde and Wyre				
Population/Location Characteristics	As a tourist centre, Blackpool receives 11 million visitors annually and this results in a high number of A&E attenders. There are extremely good transport links from Blackpool to the rest of the North West Linking to major cities of Manchester, Liverpool and the conurbation of east lancashire			Tourist	The population determines the demand of hospital services
Staff	4470			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	344,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st December 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Fair	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Julilan Hartley, since Dec 2005.	**Aidan Kehoe** was appointed Chief Executive on the 1st July 2009. He joined the Trust in 2004 as Director of Operations and became Deputy Chief Executive in February 2006. Aidan is a fully qualified Chartered Accountant		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	one of the best performing Trusts for our achievement of the four hour A&E target and many patients are seen much sooner as the Trust has set its own local three hour target. We also made huge progress in developing the Blackpool Way, ensuring staff feel valued and respected and that their work is rewarded and recognised (AR0708)			Successful Performance	No performance issues, a clear statement of the 'blackpool way', that has resonance with 'the Toyota way' i.e. a Lean approach
Notes on AR T2 (09-10)	'Once again we were featured in the list of CHKS Top 40 Hospitals for being one of the best performing hospitals Trusts in the UK. We also saw further improvements in our Care Quality Commission (CQC) ratings, scoring 'good' for quality of services and 'excellent ' for use of resources – the highest rating for the NHS in Lancashire and Cumbria' (AR0910:6)			Successful performance	No performance issues. Again, a clear statement of the 'blackpool way', that has resonance with 'the Toyota way' i.e. a Lean approach

	'a lot of work has been done to improve staff engagement and involvement and further embed 'The Blackpool Way'. We were delighted to be awarded Investors in People Gold in January 2010 – highlighting our commitment in this important area.' (AR0910:7)		
Process			
Service Improvement Approach	T1: The Blackpool Way: 'We also made huge progress in developing the Blackpool Way, ensuring staff feel valued and respected and that their work is rewarded and recognised' (AR0708:7) T2: 'AR0910 outlines the process of Lean implementation in the Trust (p.53): During 2009 the Trust entered into a three year partnership with The Manufacturing Institute, to develop and embed the use of Lean methodologies across the organisation, as part of the approach to continuous improvement. Over this three year period many staff will be involved in Lean projects and will receive training in Lean, enabling staff to deliver meaningful, sustainable change in their own workplace. In order to identify priorities, the Manufacturing Institute undertook a Trust Diagnostic and presented a summary of the findings along with a five day training programme to the Executive Team in November and December 2009. Work streams will focus on the delivery of the highest quality of patient care in the most efficient way possible and ensure that all of the things we do add value to the patient pathway. A Steering Group with members of staff from across the Trust at the heart of the group and its work will be set up early in 2010, to drive forward the Continuous Improvement Programme.'	T1: Systemic T2: Systemic	The Blackpool way symbolises a whole organisation approach to Lean implementation. T2 shows a continued commitment to a systemic approach to Lean
Content			
Areas identified as under transformation	T1: NVQ Lean programmes for staff [From newsletter] A major Lean Thinking event was scheduled to take place in Medicine over a few months starting Feb 08 facilitated by GE Healthcare. Training for key staff is taking place on 28th and 29th February (2 days) and 25th to 27th March (3 days). Following this, dates for a Kaizen event (rapid improvement event) will be organised. Three new Lean Thinking NVQ programmes have started in: · Cardiac · Pathology · Surgery Through undertaking improvement events in their work area, staff taking part will achieve a level 2 NVQ in Lean Thinking. Further programmes will be run later in the year and, if you are interested in taking part, please discuss with your line manager or contact Harry.Clarke@bfwh.nhs.u T2: T2: Lots of references to lots of Lean projects following a search of the term 'Lean' on the Trust's website	Systemic	A clear commitment to staff training in Lean, and projects and programmes based on Lean methodology is evident across both T1 and T2.
Interpretation of Lean implementation	T1: Systemic T2: Systemic	T1: Systemic T2: Systemic	

Case 34

Countess of Chester Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
Strategic Health Authority (SHA)	North West			NW	External provider of strategic leadership
Context (Internal)					
Physical Attributes, Structure					
Area Served	Chester and surrounding rural areas, Ellesmere Port and Neston and the Deeside area of Flintshire.				
Population/Location Characteristics	Affluent area.				The population determines the demand of hospital services
Staff	3000			Medium size	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	250,000				
Trust Performance					
Foundation Trust (FT) Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Peter Herring, appointed May 2000, an accountant.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'The financial performance of the Trust was excellent with a £4.5m surplus achieved … We anticipate that this will result in a financial risk rating of 5 for the third consecutive year, the only Foundation Trust to have achieved this. Our high clinical standards and outcomes were once again recognised with the award for the 40Top Hospitals Award, one of only 5 Trusts in the country to achieve this for eight consecutive years ' (AR0708:5) 'A surplus of £4.5m underpinned a year in which we treated more patients, significantly reduced maximum and average waiting times, improved patient safety and the quality of service we deliver, extended our range of services and continued to modernise the Hospital'			Successful Performance	No issues reported
Notes on AR T2 (09-10)					
Process					
Service Improvement Approach	T2: Business Transformation Programme: 'The Countess Way' supported by Unipart Expert Practices (AR0910:13)				Identified as Lean, the *Countess Way* symbolises strategic alignment and commitment to the

			use of Lean principles.
Elements of Lean? (RIEs, PW, waste elimination etc)	No elements of Lean in T1. T2, the Trust website echoes AR0910(7) with regards to the beginning of an initiative that sounds very much like Lean: *'The Trust embarked in the initial stages of a substantial business transformation programme, '**The Countess Way**', aimed at radically changing the way we work to ensure we minimise waste, inefficiency and delay by redesigning our key processes and patient pathways and building a motivated workforce who engage in continuous improvement in the way we deliver services.'* (http://www.coch.nhs.uk/absolute/en/templateBlue.aspx?articleid=160&zoneid=11 accessed 8/9/10) 'This programme has created significant efficiency, quality, productivity and financial benefits that we can build upon in the forthcoming years.' (AR0910:7) Confirmation that the The Countess Way is based on Lean: The Countess Way programme was introduced in early 2009 with the aim of radically changing the way we work through a programme of cultural change underpinned by the application of 'Lean' tools and techniques. (AR0910:13) 'A number of managers have also been trained in 'Lean' business transformation skills.' (AR0910:19) The AR0910 cites use of 5S, Communication Cells and quality control boards.	Systemic	The echo of Lean is confirmed as Lean by consultant UEP. Whilst described as a programme 'cultural change' is identified.
Content			
Areas identified as under transformation	Throughout the year…we developed and implemented various workstreams to progress this transformation programme. In 2009/10 we focused upon: • the redesign of emergency and elective care pathways; • redesigning bed management processes; • realigning management structures to support patient pathways; • improving the way we match capacity with demand; • the movement of supplies and storing arrangements within the hospital to improve efficiency; • developing new performance management and business planning arrangements; • building our internal capability to undertake organisational change, lean transformation and pathway redesigns; • reviewing Human Resource policies and procedures; • enhancing leadership and management skills; • improving mechanisms for communication and engagement with staff 'Significant benefits have already been derived, including reductions in length of stay, reductions in sickness absence levels, streamlined management and workforce structures, improved communications, the flow of supplies and medication, more effective use of available capacity, and financial savings equating to £2.5m in a full year.' (AR0910:13		

Case 35

East Cheshire NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	East Cheshire and South Manchester				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2080			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	195,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	Repaying [the] historic debt will give the Trust a stronger application for Foundation Trust status and therefore the Trust Board decided to delay its application. (AR0708:3)				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	John Wilbraham, finance background, appointed 2003	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'Financially the Trust has had a successful year and generated a surplus of £900k, which has reduced its cumulative deficit to £5m demonstrating operational sustainability.' (AR0708:3)			Success, recovery	The trust has successfully generated a surplus helping to deplete the financial deficit that has been holding them back
Notes on AR T2 (09-10)	**2009/10** has been a very successful year for the trust in many ways...the work of the staff was recognised by an external company who rated East Cheshire NHS Trust as one of the five best trusts in the country for its quality of care. Whilst patient satisfaction is high we will continually strive to improve it further... 2009/10 has also seen the financial plans of the trust come to fruition with the repayment of its historic debt.			Success, recovery	The trust has continued their success and finished repaying their historic debt
Process					
Service Improvement Approach	T1: 'Our Trust continued to support service redesign using Lean thinking and methodology. The Lean Core Group has worked in partnership with teams and departments across our Trust and health economy, developing services, sharing their knowledge and increasing our learning and			T1: Programme	A clearly defined programme is taking place in the trust using lean principles. The approach to lean is more than a few

	understanding of Lean principles' (AR0809:31) The Leading Service Improvement Programme, which provides support to leaders and professionals on service improvement tools and techniques, continues to be developed and delivered in partnership with colleagues in the Trust Service Improvement Team. Participants undertake a service improvement project within their workplace, which also results in tangible benefits within service areas. (AR0708:21) T1: The Team Leaders' Development Programme: Areas of knowledge and skill covered include leadership, motivation, managing performance, leading and managing change and developing your team and service. (AR0708:21)		projects as it is co-ordinated and embedded within a framework of training and development.
Elements of Lean? (RIEs, PW, waste elimination etc)	Lean thinking and methodology		
Content			
Areas identified as under transformation	T1: 'The Trust continues to develop the lean philosophy which is focused on reducing waste and improving efficiency and the quality of services. Several achievements include: • A reduction in duplication of patient's paperwork saving nursing staff time, money and paper! • Development of in-house protocols for CT scanning, reducing delays and improving inpatient experiences • Systems redesigned to free up to 2 hours per day for clerical staff • Streamlined admission process for orthopaedic patients resulting in improved care delivery and reduction in preoperative bed days • Solution to recurrent issues with sterile theatre equipment reducing equipment delays significantly and saving up to £10,000 per year • Introduction of new generic worker post in the Radiology Department, freeing up to 12 hours of radiographer time (AR0708:18) T2: The Lean Core Group has worked in partnership with teams and departments across our Trust and health economy, developing services, sharing their knowledge and increasing our learning and understanding of Lean principles…. Over the last year, our 'Introduction to Lean' session has been given to more than 100 staff, delivering this key message. (AR0910:31)	T1: Programme T2: Systemic	T1: Lots of Lean projects are mentioned T2: The commitment to implementing Lean right across the trust is made clear with the establishment of a 'core group' and the wide scale delivery of Lean training.
Interpretation of Lean implementation	T1: Programme T2: Systemic	T1: Programme T2: Systemic	
Other Notes			

Case 36

East Lancashire Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	East Lancashire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	7000				Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	520,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	'Next year will see us push hard to become a Foundation Trust and it is vital that the membership is representative of all of East Lancashire' (AR0708:3)	It is our intention to continue to develop our state of readiness and meet all the criteria necessary to become a Foundation Trust within the next twelve months. (AR0809:41)			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Weak	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Ms Marie Burnham, since July 2008	Diane Whittingham - Diane joined the Trust in September 2009 as the Trust's interim Chief Executive. During this time Diane will also continue to be Chief Executive of her current Trust Calderdale and Huddersfield NHS Foundation Trust, supported by her team of Directors within both organisations.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	"I am aware of the nervousness of many people among our staff and the general public about what the changes to our services will mean for them. For our staff I believe they will bring stability and a future that is assured. For the public, they bring massively improved healthcare in an environment that is worthy of being called 21st Century" (AR0708:3)			Change, uncertainty	Acknowledgement of a culture of nervousness at the trust
Notes on AR T2 (09-10)	This year has been a time of change in the management of the Trust at a senior level and I would like to thank the former Chairman, Alan Green, and the former Director of Finance,			Change, uncertainty	More change

	Stephen Brookfield, for their hard work and dedication to the Trust over a number of years and wish them the very best for the future. On behalf of the Trust I would also like to take the opportunity to thank the former Chief Executive, Marie Burnham, for her service to our local communities as she leaves the NHS to pursue other interests… In the Summer of 2009 the Trust was facing difficulties in meeting the tough national standards on waiting times for emergency treatment, stroke treatment, hospital associated infections, cancer targets and an increasingly difficult economic position. I am delighted to report at the end of the year progress has been made in each of these areas with the Trust having significantly improved its performance in all these areas		
Process			
Service Improvement Approach	T1:'The development of lean principles to drive out efficiencies within the organisation has been aligned to two key themes over the last 12 months – developing awareness within the organisation and developing capability.' T1: 'The team of Lean Facilitators within the operational structures have continued to work with Divisional and Departmental teams to embed the Lean philosophy throughout the year and ensure that the organisation constantly examines how to improve itself from the viewpoint of the patient in order to provide better services.' (AR0708:15) T2: The Trust experienced severe difficulties during the early part of the year in meeting the national standard that 98% of patients attending emergency departments should be treated or discharged within four hours. The Trust recognised that there was a need to rapidly improve the quality of this aspect of our service and worked extremely hard with the support of the commissioning primary care trusts and the Strategic Health Authority to improve its performance over the course of the year. The concentrated efforts of our staff have seen a radical redesign of the way in which our emergency care pathways are structured to enable rapid early assessment and triage, treatment and discharge or admission to an appropriate bed. This way of working has enabled the Trust to rapidly improve the service and performance against the target in a sustainable way since January 2010 despite the pressures from increased attendances.	T1: Programme T2: No Lean	A team of facilitators are in place to 'embed' the lean philosophy T2: a redesign project is described that took place out of necessity. Lean is not explicitly mentioned, neither is waste
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: We have welcomed the opportunity to participate in the Productive Ward Programme, which has been developed by the Institute for Innovation and Improvement. This is having major benefits in releasing time to care at the bedside and enabling nurses in particular to deliver high quality care	T2:PW	
Content			
Areas identified as under transformation	T1: 'During the course of the year Lean principles have continued to be rolled out across the organisation to ensure our staff are able to more efficiently provide the right service in the right place at the right time to our patients and so	T1: Programme	

	reduce the amount of time spent on non essential activities. Rapid improvement events have been undertaken in a number of areas involving whole teams working together to improve their environment and the services they provide.' (AR0708:15) T2: The Service Quality Management Team ensures that there is an annual comprehensive programme of quality improvement for the care of patients, reporting on a regular basis to the Trust Board on the full range of its activities.	T2: No Lean	Still talk of a programme and a service improvement team, no Lean is mentioned
Interpretation of Lean implementation	T1: Programme T2: PW	T1: Programme T2: PW	
Other Notes			

Case 37

Lancashire Teaching Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Lancashire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6700			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	390,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Tony Curtis, appointed as Chief Executive of Lancashire Teaching Hospitals NHS Trust in 2002	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'Whilst 2007/08 was an extremely challenging year for a number of reasons, the Trust exceeded its financial targets, enabling an in-year surplus of £8.5m' ... As indicated in the report, the majority of the national targets were fully met. However, in common with many other organisations, the MRSA target was not achieved. This is disappointing despite a target of only 22 patients being very challenging. There were also problems related to outpatient and inpatient waiting times, resulting in the Trust reporting a small number of breaches, which caused the targets to be failed. (AR0708:4)			Performance issues	The trust has some pressing performance issues.
Notes on AR T2 (09-10)	I am proud of our continuing commitment and achievements in improving the quality and safety of care delivered to our patients. In this we benefit from full support and encouragement from both the Board of Directors and the Governing Council. Based on the assessment of our Annual Health Check 2008/09, the Healthcare Commission has awarded us a 'good' rating for both quality of clinical services and use of financial resources in 2009. We also fully met all Core Standards for Better Health, and were			Successful performance	Inference that service has improved greatly alongside 'Lean Working' in conjunction with Manufacturing Institute

	rated 'good' for achieving the new national targets…As part of the CHKS Top Hospitals Programme, the Trust has received the Data Quality Award for England. This is an excellent achievement, recognising our high standard in clinical coding. Our work with the Manufacturing Institute on 'Lean Working' is also making good progress, and service improvements are beginning to come through.		
Process			
Service Improvement Approach	T2: Our work with the Manufacturing Institute on 'Lean Working' is also making good progress, and service improvements are beginning to come through. (AR0910:6)	T2: Few Projects	A few projects are identified alongside an external partner
Elements of Lean? (RIEs, PW, waste elimination etc)	T1 None. T2: 'Review of the emergency care pathway through 'Lean management' principles, including improvements to patient flows, reduction in length of stay, improved bed and theatre utilisation and better discharge planning. Linkages with local GPs and the Primary Care Trust will be important elements in this work. (AR0809:29) 'In relation to financial resources, the NHS needs to respond to the changed economic climate…the Trust is reviewing which services are to be delivered, in line with the achievement of mandatory services, whilst adopting a 'lean' approach to service delivery.' (AP0910:11)		
Content			
Areas identified as under transformation	Review of the emergency care pathway through 'Lean management' principles, including improvements to patient flows, reduction in length of stay, improved bed and theatre utilisation and better discharge planning. Linkages with local GPs and the Primary Care Trust will be important elements in this work. (AR0809:29) Review of bed use: This is a significant piece of work and will need to be scheduled into the programme of 'lean' activities. (AP0910:14)	T2: Few Projects	
Interpretation of Lean implementation	T1: No Lean T2: Few Projects	T1: No Lean T2: Few Projets	
Other Notes	Newly appointed Chief Operating Officer is said to have 'extensive experience of organisational development through the 'lean' experience.' (AP0910:5)		

Case 38

North Cumbria Acute Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Allerdale, Carlisle, Copeland and Eden districts				
Population/Location Characteristics	The Trust is located in one of the most geographically remote areas and serves the third most sparsely distributed population in England. (AR0910:7)			Rural	The population determines the demand of hospital services
Staff	4300			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	320,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair		Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak		Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Marie Burnham	Carole Heatly		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'For the fifth year running we have achieved financial balance. We were awarded a 'fair' rating for the quality of our services by the Health Commission and have made significant steps forward in delivering the 18-week patient pathway. In fact, we were ahead of many other Trusts in the North West in reducing our diagnostic waiting times.' (AR0708:2)			Performance issues	The statement by teh CE seems to suggest that the trust should have been awarded a higher rating by the CQC.
Notes on AR T2 (09-10)	'It was great news that despite the many challenges facing the NHS, our Trust was the highest performing hospital trust in Cumbria for the quality of care we deliver to our patients. Overall 2009/10 was a successful year for us and we were named as one of the top 40 hospitals in the UK by the independent benchmarking company CHKS.' (AR0910:4) 'These achievements have been made in conjunction with a very successful cost efficiency drive which has enabled the Trust to deliver a small surplus for the second year in succession. (AR0910:5)			Successful performance	No performance issues
Process					
Service Improvement Approach	T2: Several wards at the Cumberland Infirmary and West Cumberland Hospital are working on the Productive Ward project as a pilot and it will be rolled out across all wards in the coming year. (AR0910:21)			T2: PW	

Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: None T2: PW only	T1: None T2: PW only	
Other Notes			

Case 39

Pennine Acute Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Bury, Oldham, Rochdale and North Manchester				
Population/Location Characteristics	Geographic area served by the trust is characterised by its industrial legacy which has affected the health of residents in a number of ways eg. high levels of chronic disease related to poor general health, poor nutrition, & inadequate housing. High population densities contributing to poor access to healthcare; high number of young and old population, heavy reliance on public transport.			Industrial	The population determines the demand of hospital services
Staff	9078			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	800,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	John Saxby joined the Trust in June 2007. He was previously Chief Executive of the County Durham and Darlington Hospitals Foundation Trust	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'We have had 12 months of very significant progress. The achievements of staff include providing high quality services, raising standards even further, planning for the future and gaining recognition, not just on a regional level but on the national stage.' (AR0708:4) 'At the end of 2007-08 we had repaid the debt in full. In addition to paying off that historic debt, we also ensured that we had an appropriate level of cash to underpin our operational requirements. We will not go into debt again'			Success, recovery	Reports of a successful year and the repayment of historic debt
Notes on AR T2 (09-10)	'delighted to report that the Trust was named as one of the CHKS 40 Top Hospital Trusts in 2009…This is the first time the Trust has been included in the CHKS Top Hospitals' group			Successful performance	No performance issues

	(AR0809:5) 'We have just concluded a major change in our management structures which will bring clinical staff directly into the frontline of management decision making. The new structure puts greater emphasis on clinical staff leading and managing our clinical directorates and means that doctors and nurses in particular are at the heart of managing the services provided for our patients. This is a bold move but is one that I am confident will see major benefits and improvements in services delivered throughout 2009/10 and beyond. (AR0809:7)		
Process			
Service Improvement Approach	T1: 'In 2008 the [cytology] department was successful in its application to become one of ten national pilot sites to use the adoption of 'Lean Management' practices to ensure that laboratory test results were received by women within the national 14 day standard deadline for cervical cytology following routine cervical smear tests.' (QA0920:23) T2 – PW: 'The Trust is fully signed up to the initiative and has already seen overwhelming evidence of the benefits to staff and patients across its four pilot wards within its hospitals. (QA0910:16)	T1: Tentative T2: PW	Only one project is identified that is part of a national pilot.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Cytology T2 Wards		
Interpretation of Lean implementation	T1: Tentative T2: PW	T1: Tentative T2: PW	
Other Notes			

Case 40

Royal Bolton NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	North West: Farnworth, Bolton				
Population/Location Characteristics	Our services take into account that local people have higher levels of ill health and chronic disease than average. Bolton's populations of younger people and the over 65s are both growing as are minority ethnic group which represent a significant part of the population.			Young and old population	The population determines the demand of hospital services
Staff	3360			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	265,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		T1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st October 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	David Fillingham, appointed 2004. Former director of Modernisation Agency	Lesley Doherty, appointed Aug 2010		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'We're particularly pleased with the ongoing success of our Bolton Improving Care System (BICS) which is attracting national and international recognition for its innovative work in improvements for patients and staff alike.' (AR0607:3) 'Making It Better, a consultation with members of the public and professionals across Greater Manchester and High Peak about the siting of maternity and children's services, agreed that Bolton should be one of three "supercentres".'			Successful performance	The trust is pleased with performance
Notes on AR T2 (09-10)	'The Trust's Bolton Improving Care System continues to be highly regarded both at home and abroad for its innovative approaches to bringing benefits to patients and staff using "lean" management techniques. Just one example is that BICS has helped us improve our stroke services which audits show now offer some of the fastest and most effective care for patients in the country.' (AR0809:6)				The trust is pleased with performance

	'There have, however, been some areas where we have not performed as well and where we recognise that we need to make improvements. For example our "turnaround" times for A and E patients to be admitted, discharged or transferred were much lower in the last six months of 08/09 than we would have liked.' (AR0809:6) Improving the quality of care for patients is paramount. We have been able to reduce the number of actual deaths at the hospital although we did not appear to have done well in the Hospital Standardised Mortality Rates published by Dr Foster's Hospital Guide in November 2009. These rates use complex methodology to look at unexpected deaths and we are working to understand why we did not seem to have improved as quickly as other trusts on the Dr Foster rating even though the number of actual deaths here has fallen (further information in section three). We are passionately committed to improving the quality of outcomes and patient experience and will use the Dr Foster intelligence and other information to target areas that need to be tackled. We take part in a wide range of quality improvement programmes and these are outlined in the Quality Report. We have achieved all of this whilst working in a challenging financial climate and having to deliver a high level of savings. (AR0910:8)		
Process			
Service Improvement Approach	T1: BICS – Bolton Improving Care System, BICS team. Training in Lean for all staff. 'The Trust has developed its own way of using Lean thinking that is named the Bolton Improving Care System (BICS). Its success has been attracting national and international attention. 'At the heart of BICS is the belief that staff understand their own work best. We aim to give them protected time and to teach them techniques that help them identify and solve problems in their day to day work.We believe that engaging staff in this way is key to both better care for patients and more job satisfaction.' (AR0607:4) 'Since 2005 we have been working to create what we have called BICS, the Bolton Improving Care System. We know that the challenge of delivering safe, high quality healthcare day in day out is no easy task. It requires thousands of processes, involving a myriad of contacts between patients and individual members of staff, to be well designed and consistently implemented. BICS uses the best evidence from management and improvement science in a wide range of fields including Industry and commerce as well as best practice in healthcare. It gives frontline staff the tools to improve their work on a daily basis. Most importantly of all it engages every single member of staff and empowers them to be	T1: Systemic	A trust wide approach that talks about engendering lean as the way we do things around here.

	problem solvers. We will only have succeeded when all 3,500 staff see improvement as their daily business.' (AR0809:8) T2: The Bolton Improving Care system (BICS) is both the Trust's strategy and its system for improvement. It embraces practical day-to-day methods of problem solving; redesigning services to deliver better care; involving patients in improving what we do; and involving all staff in the continuous pursuit of best possible care. It is at the heart of our plans for driving safety, quality and productivity. The problem solving approaches in BICS use "lean" methods, borrowed initially from the manufacturing industry, but adapted and applied to healthcare	T2: Systemic	T2: continuation of the systemic appraoch
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	During 2006/7 365 staff participated in 52 "rapid improvement events", helping to shape the way we provide services. In October an organisation-wide "visioning" event, involving all key health professional and other leaders, looked at the experience of our patients and how we could improve the quality of their care. It was agreed to concentrate in the following months on four important areas: • Stroke • Abdominal pain • Cataracts • Joints surgery Work has also been taking place in a number of other areas including; the telephone access centre, laundry, pathology, estates, hospital sterilisation and decontamination unit, around discharge planning, trauma and radiology. Improvement work is continuous and gradually all staff will be involved in bringing benefits to the workplace and for patients. (AR0607:5) 'We have had some really encouraging early successes. Our first priority was to tackle high mortality rates within our trauma services. We had a long standing concern that patients who were admitted with fractured hips did not get the best possible care. Using our BICS approach we redesigned the patient journey, making many small improvements such as reducing the time to get patients to theatre, establishing a Trauma Stabilisation Unit and improving our discharge processes. The results were impressive: a 30% reduction in mortality with patients staying in hospital 33% less time. Applying BICS to elective orthopaedic operations for older patients demonstrated similar success with an impressive 85% reduction in complication rates. Our stroke service was another area where our mortality rates were worryingly high. **In 2006 our stroke services were rated in the bottom quarter of all trusts in the country on a range of clinical process measures known as the "Sentinel Audit". The same audit repeated in 2008, after our BICS redesign, ranks them as the fifth best, and the mortality rates have fallen by 25%.'**	T1: Systemic T2: Systemic	Lean is being used right across the trust at both strategic and operational levels.

	(AR0809:8)		
Interpretation of Lean implementation	T1: Systemic T2: Systemic	T1: Systemic T2: Systemic	
Other Notes	The Trust's former Chief Executive David Fillingham has authored a paper and book about Lean implementation at Bolton.		

Case 41

Construct	Data Collected			Categorical interpretation	Rationale
Royal Liverpool and Broadgreen University Hospitals NHS Trust					
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Liverpool city centre				
Population/Location Characteristics	Some of the country's most deprived areas – those within the top three per cent nationally - can be found in the northern half and the southern tip of the city. In general terms the people of Liverpool suffer poorer health than other communities in England and Wales. Around 13% of people aged 50 and over say they are permanently sick or disabled. Death rates for falls are over twice the national average and around 15 older people a day attend A&E at the Royal Liverpool University Hospital as a result of a fall. Death rates from cancer are 40% higher in Liverpool than the national average • death rates from heart disease are 22% higher than the national average • Liverpool has the highest death rates from lung cancer in England and Wales. A relatively small black and minority ethnic population (about 6%) in Liverpool compared with nationally. Life expectancy is also lower for both men and women. The key issue for Liverpool is the general poor health of the population and the related effects of poverty, deprivation and the consequent demands on services.			High levels of deprivation	The population determines the demand of hospital services
Staff	5500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	In the past year, work has been done to pave the way for an application to become a Foundation Trust.				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	Tony Bell OBE, appointed Dec 2007, joined the Trust from the neighbouring Royal Liverpool Children's NHS Trust where he had been Chief Executive since 2000. Clinical background is in accident and emergency and trauma.		Same	Stable	No change of CE during data collection period

Culture and Strategy (From Annual Report Summary by CE & Chairman)			
Notes on T1 AR (07-08)	'one of the largest and busiest teaching hospitals in the North West of England. The Trust has begun the journey of transforming its services so that they will be world class to match the new facilities we will have in place in a few short years.' (AR0708:4) 'The years ahead will be about rapid improvement in our clinical services, the move towards operating as a successful Foundation Trust and delivering the new world class hospital and services that the people of Liverpool deserve.' (AR0708:5)	Successful performance	The strategy of the trust is about transformation into a world class hospital. No performance issue highlighted.
Notes on AR T2 (09-10)	2009 / 2010 was a year of great celebration with the Trust receiving the highest possible rating from the Care Quality Commission. In October 2009, we reached our goal of a double excellent score which recognised the significant improvements in the quality of our services and of our financial management	Successful performance	No performance issues highlighted.
Process			
Service Improvement Approach	T2: Excellence Through Leadership programme is a 'major transformation programme' incorporating Lean and PW. 'The ethos of the programme is to be inclusive and ensure everyone is involved and that leadership is not just provided by those already in leadership roles. Following the facilitator training, a series of workshops will be held for staff helping to ensure that the objectives of this project are understood by all staff.' (AR0910:18) T2: A 'Lean' transformational programme is underway as part of our Excellence through Leadership activities – in all areas including patient experience, patient safety and financial health. (Annual Plan 2010/11)	T2: Programme	Approach to Lean is clearly identified as a programme
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: "Pathway redesign to improve patient journeys and experience will be implemented by clinicians and managers in individual areas using best practice models, such as Lean Thinking and Modernisation Agency "10 High Impact Changes."Lean Tender presentations were made in July 2008. T2: Section of Annual Report dedicated to 'Lean and Productive Ward'.	T1: tentative T2: programme	The category of tentative is used because the trust is tendering for consultancy
Interpretation of Lean implementation	T1: Tentative T2: Programme	T1: Tentative T2: Programme	
Other Notes			

Case 42

Salford Royal NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Salford				
Population/Location Characteristics	The inner city area of Salford suffers from the customary problems of high unemployment, teenage pregnancy and alcohol and substance misuse			Inner city	The population determines the demand of hospital services
Staff	5080			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	220,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st Aug 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	David Dalton. The CEO's biography states his two particular interests are introducing and managing change	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'2006/07 has probably been one of the most remarkable and successful years for the Trust in recent years. Notwithstanding the considerable effort required to achieve Foundation Trust status, we have continued to focus on our core purpose of providing the highest quality care to patients. one of the top performing hospitals in the country for the third year running,			Successful Performance	No performance issues
Notes on AR T2 (09-10)	'We are delighted to have, again, achieved all national and local quality, performance and financial targets and been awarded for the fourth time in a row… Salford Royal has one of the best track records in the NHS.' (AR0910:10)			Successful Performance	No performance issues
Process					
Service Improvement Approach	T1: Salford's Quality Improvement Strategy for 08/09 identifies: 'a programme of quality improvement projects which will help staff make changes to provide safe, clean and personal care to every patient, every time. We will focus our efforts on a targeted portfolio of projects which we believe will have a significant impact on unintentional harm and mortality'. T2: Staff Training in Leadership. Quality			T1: Service improvement programme	T1: A programme of service improvement projects

	improvement tools and Lean methodology is available (AR0910:29). 'We estimate that over 850 staff members have been involved in the QI learning via participation in our courses and collaboratives during the financial year 2009-10'; 271 staff in Lean methodology.		
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1:LEAN project to commence April 2008 to remedy historic waiting culture associated with knee and hip replacement. Project will last for 6 months. (Quality Improvement Strategy 08/09) T2: The Trust has partnered with Simpler Consulting to offer a tiered learning and development programme leading to Bronze, Silver, Gold accreditation (similar to Bolton)	T1: Few projects T2: Systemic	T1; Only one Lean project is identified T2: the trust has partnered with Simpler to develop a tiered learning andtraining programme suggests that the approach to Lean is systemic
Interpretation of Lean implementation	T1: Few projects T2: Systemic	T1: Few projects T2: Systemic	
Other Notes			

Case 43

Southport and Ormskirk Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Southport & Formby, Ormskirk and Skelmersdale				
Population/Location Characteristics	High level of migrant workers. Southport is a coastal resort and as such attracts more than 5m visitors placing an increased seasonal demand on healthcare. Large industry is at a minimum in the immediate area. Ormskirk is an ancient market town located in West Lancashire which is largely rural with a number of small villages and arable farm land.			Tourist	The population determines the demand of hospital services
Staff	2853			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	260,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Jonathan Parry	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	There is no secret that we were disappointed with the rating last year, and to have gone from fair to excellent – an improvement of two ratings – within one year and to be in the top third. Over the last four years, the Trust, through the hard work of all of our staff, has reduced its expenditure by £20million. We weren't profligate before, but last year through efficiencies we saved the tax payer £5.2million, produced a surplus and (the salient point) at the same time continued to deliver outstanding performance for our patients			Success, recovery	The trusts has recovered from poor performance and reduced its expenditure.
Notes on AR T2 (09-10)	At the time of writing, the Trust continues discussions with NHS Central Lancashire and NHS Sefton with whom we have agreed in principle to create the new organisation. We anticipate many benefits from bringing into one organisation services currently provided by three. This creation of the ICO should eventually lead to an application for Foundation Trust status.			Structural change	
Process					

Service Improvement Approach	T2: EQIP (Enabled Quality Innovation Partnerships) is the practice of making small, simple changes to improve working practices and ultimately provide a higher quality patient experience… EQIP's 2010 workshops were started in May. EQIP improvement notice boards were established in each department and ward, allowing teams to post suggestions for improvement and displaying progress. This will support the wider strategy of small step, simple changes made by front line teams. (AR0910:13). Use of Patient Stories and Leadership walkarounds.	T1: No Lean T2: No Lean	No reference made to Lean.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 44

St Helens and Knowsley Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	St Helens, Knowsley, parts of Halton and Liverpool				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Ann Marr, Appointed Jan 2003	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'It has been an exciting and challenging year for the Trust, with each directorate demonstrating commitment and improvements to the care we provide to our patients and there have been many significant developments to services'			Successful Performance	No performance issues, positive outlook
Notes on AR T2 (09-10)	This year, the Trust undertook one of the most significant developments in its history; moving into the new Whiston Hospital, six months ahead of schedule and within budget. Whiston Hospital boasts state of the art facilities with modern purpose designed wards and 50% single room accommodation providing the utmost in privacy and dignity for patients, in an environment that is clean and safe. Whiston Hospital is complemented by St Helens Hospital, which opened in 2008. At St Helens Hospital increasing numbers of patients are being provided with direct access to the very latest diagnostic equipment, a full range of outpatient clinics and one-stop assessment facilities, and the hospital also provides intermediate care beds. In 2009 the Trust achieved a 'DOUBLE EXCELLENT' rating from the Care Quality Commission for the second consecutive year. The Trust also continued to achieve all its requirements for infection control and prevention and has			Successful Performance	No performance issues, positive outlook

	sustained one of the lowest MRSA infection rates in the region. In addition, the Trust was rated as 'EXCELLENT' in each category of the Patient Environment Action Team (PEAT) assessment across both St Helens and Whiston hospitals, for the fourth year running. (AR0910)		
Process			
Service Improvement Approach	T1: National recognition for redesign within the (Pathology) laboratory using LEAN methodology (AR0708:11). T2: The national 'Productive Wards' programme is introduced in Feb 2009 to enhance the Trust's own Wards of Excellence initiative, (AR0809:9) The Programme was launched on Wards C2, B2 and D3 at Whiston Hospital with six new wards joining every eight weeks and the initial feedback from patients and staff has been very positive (AR0809:15). T2: The Microbiology department win 'Best Sustained Project' in the LEAN Healthcare Academy Awards for their groundbreaking service transformation that has helped to improve turnaround times for MRSA testing and further enhance infection control at the Trust. (AR0910:10) T2: **Productive Wards** In 2008, the Trust implemented the national Productive Wards programme to facilitate a streamlined and efficient service for patients and release nurses time to spend with patients on direct care	T1: Few projects T2: Few projects	A few Lean projects are mentioned in both T1 and T2 reports but little to suggest a progression towards a more coordinated ro systematic implementation of Lean in the trust across the period
Elements of Lean? (RIEs, PW, waste elimination etc)	Projects, PW		
Content			
Areas identified as under transformation	Microbiology, pathology, wards		
Interpretation of Lean implementation	T1: Few Projects T2: Few Projects	T1: Few Projects T2: Few Projects	
Other Notes			

Case 45

Stockport NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Stockport and the High Peak				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3600			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	Dr Chris Burke - a PhD on 'Management Organisational Development and Clinical Leadership' has worked in NHS since 1977 and has been CE since 2004.		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'The year was challenging financially and required effective collaboration between our clinicians and managers to ensure our financial stability. Our ability to achieve a surplus and retain a Monitor finance rating of 4 is a reflection of a high performance organisation and a testament to the hard work of everyone involved.' (AR0607:5)			Successful performance	Successful performance in teh face of challenging circumstances
Notes on AR T2 (09-10)	This year has been exceptional in many ways . We have achieved remarkable success in reducing waiting times, achieving financial targets and being rated excellent/excellent			Successful performance	No performance issues
Process					
Service Improvement Approach	T1: The Chairman reports: 'I was particularly pleased with our Trust's ongoing work with Tesco and United Cooperatives, which will benefit us in terms of organisational development as well as benefits for our members.' (AR0607:6) Stockport uses a 'steering wheel of values' as used by Tesco.			T1: Steering wheel of values	Not Lean methodology but 'values'
	T2: The Trust has used Lean methodology through the Stockport Improvement Programme to link the aims and values of the Trust with			T2: Programme	A programme is identified that uses lean principles

	significant improvement projects that involve staff at all levels (AR0809:21) Leadership development has also figured strongly this year with 'First Class Leaders' initiative.. T2: Use of Lean methodology to streamline processes (AR0809:19) One of the Trust's Strategic Objectives stated in the Annual Plan 2009/10 is: 'Leaders use Lean techniques to inspire, drive and sustain a culture of service improvement' (AP0910:14) 'Delivering the Trust's workforce objectives for 2009/10 will ensure that management practices are sound and that leadership Processes, based on Lean methodologies, are in place to deliver results (Annual Plan 2009/10-11/12:24)		alongside leadership development
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: Staff engagement has increased due to the roll out of our Stockport Improvement Programme using Lean principles. There are now three major cross cutting projects looking at elective pathways, medical pathways and outpatient pathways		
Interpretation of Lean implementation	T1: No Lean T2: Programme	T1: No Lean T2: Programme	
Other Notes			

Case 46

Tameside Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Tameside, Glossop, Ashton-under-Lyne				
Population/Location Characteristics	The population is concentrated in the largely industrialised areas of the eight townships of Tameside; Glossop with its population of approximately 28,000 is part of Derbyshire High Peak Borough Council, which provides the challenges of a more rural community			Rural	The population determines the demand of hospital services
Staff	2401			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	250,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st Feb 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Christine Green	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'2007/08 has been a year of high achievement, when the Trust has taken many significant steps forwards in improving and enhancing the services it offers to patients, families, staff and the wider community			Successful performance	A year of high achievement and FT status
Notes on AR T2 (09-10)	'In November 2009, annual statistics on hospital performance were published in the Dr Foster Hospital Guide. These figures were based on activity during 2008/09, and showed that the hospital had an elevated mortality ratio, at 119.3 (national average 100). This was a disappointing result, as the hospital had higher than average mortality figures in previous years, and had been working very hard to bring them down. There is good evidence that mortality rates at the hospital are falling, but clearly they have not come down rapidly enough.' (AR0910:6) 'Overall, the hospital remained financially stable in 2009/10, delivering its cost improvement programme, and retained a Financial Risk Rating of 3 (range 1 – 5) (AR0910:7)			Performance issues	The trust is concerned about its mortality ratio.
Process					
Service Improvement	T1: PW and Piloting potential use of Lean			T1: PW	T1: PW only (tentative

Approach	methodology T2: Leadership Development (*Thinking Differently*, Productive Ward, LEAN, Resilience) is cited as an action to address the need for quality improvement T2: Hospital staff are using thinking techniques developed in Japanese manufacturing industries to improve the way they work. 'Lean thinking' is just one initiative which Tameside Hospital NHS Foundation Trust is introducing to improve the patient experience and develop its 2,400 staff...staff development initiatives at the Trust include its 'Thinking Differently' leadership programme. This offers staff focused leadership training in a range of areas, such as motivation, customer care and finance. Sessions have been provided at the hospital by the NHS Institute for Innovation and Improvement and the Lean Healthcare Academy. (Trust press release: 15th December 2009)	 T2: Few projects	Lean) T2: Lean methodology is named as 'one' initiative used by the trust. The inference is that a few projects are underway.
Elements of Lean? (RIEs, PW, waste elimination etc)	PW, projects		
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: PW T2: Few projects	T1: PW T2: Few projects	
Other Notes			

Case 47

The Mid Cheshire Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Crewe, Nantwich, Congleton, Middlewich and Northwich areas				
Population/Location Characteristics	During 2007/08, the proportion increased in the local population of the number of people aged 65 years or more			Increased elderly population	The population determines the demand of hospital services
Staff	3000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	280,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	Phil Morley – appointed Nov 2007, previously the Trust COO has also spent a number of years working for the department of Health helping the most challenged hospitals and other healthcare organisations to turnaround and put quality back at the centre. His skills are in improvement methodology		Tracy Bullock, appointed Oct 2010	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'If last year was a year of change, 2007/08 has definitely been a year of achievement. .. The Healthcare Commission identified Mid Cheshire Hospitals as the acute trust in England that had achieved the greatest improvement against its Standards for Better Health. We became the first ever public sector winner of an International Turnaround prize' (AR0708:4) 'In 2008/9 the Trust will launch its "lean" strategy, a programme of service reviews designed to improve service quality and efficiency.' (AR0708:22)			Success, recovery	No issues reported, winner of the turnaround prize suggests the trusts has recovered from a period of instability.
Notes on AR T2 (09-10)	'disappointingly we were rated as ''fair' for services by the Care Quality Commission against the 'good' for services achieved with the predecessor body the Healthcare Commission. We will continue to strive for a better rating this year and expect the work accomplished in our 10			Performance issues	The trust was disappointed with their performance rating.

	out of Ten programme referred to in the Chief Executives Afterword to assist us greatly in this area.' (AR0910:14) 'Our programme of continuous improvement is now well embedded across the Trust and our Chief Executive, Phil Morley, has personally lead our 10 out of Ten quality initiatives which are rolled out across all areas of the Trust.' (AR0910:15)		
Process			
Service Improvement Approach	T1: The AR identifies Lean methodology as a long term strategy to mitigate/manage the risk of not achieving the planned cost improvement programmes. (AR0708:48) T2: AR0910 (p.56) reports: 'In January 2008 the Board of Directors agreed the development of a full business case to implement LEAN transformation methodology as a strategic approach to transforming services. Part of the 'Quality Matters Programme'.	T1: Programme T2: Programme	The commitment to Lean is clearly identified in the narrative as a long term strategy during T1 and T2
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: A number of strategic objectives relating to Lean implementation are listed (see page 57, AR0910) , the3 year programme has primarily focused on redesigning the two core patient flows		Lean implementation is clearly a 'programme' approach given the identification of a fixed duration.
Interpretation of Lean implementation	T1: Programme T2: Programme	T1: Programme T2: Programme	
Other Notes			

Case 48

Trafford Healthcare NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	The borough of Trafford, west of Manchester				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2000			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Weak	Weak		
Leadership					
Chief Executive (name and background)	T1	T2			
	Steve Spoerry joined the Trust in March 2007 as Chief Operating Officer and was appointed interim Chief Executive in October 2007. Steve has a particular interest in developing and redesigning the services provided by smaller district general hospitals, such as Trafford. He believes that their role as the provider of a range of intensively-used health services to a local population is essential and often undervalued.	Ron Calvert was appointed Chief Executive from 1 January 2009.)		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'good patient care while at the same time bringing our costs under control, and ended the year with a financial surplus for the first time in many years. This is a real sign that our 'Taking Trafford Forward' drive is gathering momentum….but we still have a historic deficit and know that this would have become worse rather than better without radical change. (AR0910:2)			Change, uncertainty	The trust has a historical deficit that has necessitated 'radical change'. The inference is that such change reveals uncertain times
Notes on AR T2 (09-10)	'Hard work and dedication during 2008/9 saw us recording a series of outstanding achievements in the face of some difficult challenges. We made			Success, recovery	The trust shows signs of recovery from a period of uncertainty

	real advances in the quality of the care we provide and in our financial management…There has been a considerable turnover of senior managers and directors at the Trust in recent years and there is no doubt that this has been damaging to the organisation. For the first time in recent years, however, we now have a strong and settled executive team… we believe this Trust has now turned a corner and made significant, demonstrable progress. Encouragingly, this progress has been recognised by our colleagues at NHS North West and Trafford PCT. (AR0809:3)		that has led to improved performance.
Process			
Service Improvement Approach	T1: Dir. of Provider of Services attended a Lean Event meeting at Stockport with several managers from the PCT and this again had provided very useful information on the way processes are engineered.	T1: Tentative	Exploring Lean in other healthcare organisations
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: Tentative T2: No Lean	T1: Tentative T2: No Lean	
Other Notes			

Case 49

University Hospital of South Manchester NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
Strategic Health Authority (SHA)	North West			NW	External provider of strategic leadership
Context (Internal)					
Physical Attributes, Structure					
Area Served	Manchester				
Population/Location Characteristics	Large City			Large City	The population determines the demand of hospital services
Staff	5500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	570,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st November 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Peter Morris since 2002.	Julian Hartley appointed Spring 2009		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'We are recognised as a centre of clinical excellence, demonstrated by our mortality rates, which are among the lowest in the UK. (AR0708:7)			Successful performance	No performance issues reported
Notes on AR T2 (09-10)	'The last 12 months have been challenging in terms of achieving national targets. In the early part of the year Monitor determined that UHSM was in significant breach of its authorisation following failure to achieve the 2008/2009 target for MRSA. Subsequently the Trust also failed targets for the A&E four hour wait and 18 weeks referral to treatment. Since June of last year (2009) UHSM has radically restructured its Board, its assurance and risk management processes, and introduced a number of major reforms to ways of working. UHSM is now able to report compliance with key regulatory targets and has been highlighted as one of the best performing acute teaching trusts for MRSA and *C. difficile.* (AR0910:6) 'Over the past twelve months, UHSM has introduced radical changes to the way we operate at every level. The hospital has long been valued by its patients for its often excellent, even outstanding, treatment and care. But the service has been inconsistent and failure to meet a number of important targets by the middle of last			Crisis.	The hospital was in breach of authorisation during T2 leading to some radical reforms.

	year was an indication of the urgent need to do better. The biggest breakthrough of the last twelve months is that the Board is now focused on addressing the underlying causes of poor or inconsistent performance, rather than simply dealing with the symptoms.' (AR0910:9)		
Process			
Service Improvement Approach	T2: UHSM has developed a set of values and behaviours which is referred to as *The South Manchester Way*. These behaviours … underpin the way things are done across the hospital. They celebrate what is done well and help everyone to find ways of making improvements, always with patient safety and quality of care as the primary focus. (AR0910:7) The South Manchester Way is identified as a vehicle for cultural change throughout the Trust (See AR09/10p.11) T2: 'New ways of working have been designed by teams of the same frontline staff who are responsible for delivering these services, with the enthusiastic, often innovative, help from support services such as Communications, ICT and Estates. The results are impressive.'	T2: Systemic	The trust has embraced Lean principles as the way we do things around here
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: ' During 2009/10 UHSM implemented this programme across seventeen wards and an outpatient department. As the benefits of the project have emerged – for example the clarity given to patient-flow issues, by using 'Patient-Status-at-a-Glance Boards' (display boards to illustrate where patients are in their pathway of care) - the Trust has committed to completing the roll-out across all wards and selected departments by the end of 2010/11.' (AR0910) **AR0809:11 explicitly identifies the use of Lean methodology in the Trust: 'In 2009/10 UHSM will continue a programme utilising LEAN principles of continuous service improvement. This will incorporate process redesign, demand management and behavioural challenge in two core areas: the emergency care pathway and the elective care pathway. **AR0809:26 also establishes the link between the UHSM 2015 strategy *'The South Manchester Way'* and Lean principles	T2: Systemic	Confirmation of the use of Lean principles as the basis of *The South Manchester Way'* is identified in AR 0809.
Interpretation of Lean implementation	T1: No Lean T2: Systemic	T1: No Lean T2: Systemic	
Other Notes			

Case 50

University Hospitals Of Morecambe Bay NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Morecambe, Furness, Lancaster, Westmoreland				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	7000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT2	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
		1st October 2010			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair		Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair		Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Tony Halsall	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'2007/08 was a year where everyone worked extremely hard. We met a range of national performance targets and have continued to make huge progress with our financial challenges.' (AR0708:3)			Successful performance	No performance issues
Notes on AR T2 (09-10)	We've totally brought our financial house in order without compromising patient care - last year we had settled our historic debt and this year we are debt free having paid off the Working Capital Loan we took out in 2007. Not bad for a Trust that had a £6.5 million defi cit just four years ago. To put this in context, in the past fi ve years we have saved £46 million in effi ciencies, brought the Trust out of its fi nancial troubles and used the money saved to improve patient services			Success, recovery	The trust has fully recovered from a period of historic debt.
Process					
Service Improvement Approach	T2: We have developed a sustainability plan to ensure improvements are not only sustained but continue to be developed on all wards. In partnership with Preston College, UHMBT is supporting staff to gain accreditation to NVQ Level 2 in Business Improvement Techniques for Lean training. Currently a pilot group is working with Preston College to further support, create and enhance existing improvement initiatives across UHMBT.			T2: Few projects	Improvement projects are taking place in the trust alongside Lean training
Elements of Lean?					

(RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: None T2: Few projects	T1: None T2: Few projects	
Other Notes			

Case 51

Warrington and Halton Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Towns of Warrington, Runcorn (where Halton General Hospital is based), Widnes and the surrounding areas				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4100			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st December 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Catherine Beardshaw, appointed as chief executive of the Trust in July 2006.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'We are exceptionally pleased to say that we have been able to clear our historic deficit of £6.7m which means we can start 2008/09 with a clean financial slate. We have also engaged with the local community in new ways as part of our consultation on plans to become an NHS Foundation Trust…Recognising the pressures facing the trust through our turnaround period, the board started to focus on improving the quality of our services during the year.' (AR0708:4)			Success, recovery	The trust has cleared its financial debt.
Notes on AR T2 (09-10)	'Last year was a pivotal one in terms of driving forward improvements in the quality and safety of our services. We achieved all the national and local key performance indicators, built on our quality and safety strategy implemented in 2008-2009 and introduced four National Quality and Safety Improvement Programmes.' (QA0910:4)			Successful performance	No performance issues
Process					
Service Improvement Approach	T1: introduced the Productive Ward and Productive Operating Theatre programmes which we believe will increase the time our staff have to care for patients, thereby improving the patient			T1: PW	T1: Productive wards programmes

	experience. T2: 'Lean' cited in Annual Plan (2009/10) as part of a regional project	T2: Few projects	T2: In conjunction with PW, Lean is cited in the annual report
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Wards, theatres		
Interpretation of Lean implementation	T1: PW T2: Few projects	T1: PW T2: Few projects	
Other Notes			

Case 52

Wirral University Teaching Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Wirral peninsula, Ellesmere Port and Neston				
Population/Location Characteristics	In general the population is living longer than ever before but we still experience unacceptable differences in life expectancy between population groups and this difference is increasing. The current gap between life expectancy in Birkenhead and Heswall is 11.6 years for men. For women it is 9.1 year (Wirral PCT).				The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st July 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Len Richards, appointed 2006	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'The Trust is a high performing organisation with a very positive outlook. The key external factors that will shape the Trust's performance are patient choice and the commissioning decisions both of Wirral Primary Care Trust and of Practice Based Commissioners amongst local GPs. The Trust's ongoing commitment to service excellence continues to be the key focus for service development.' (AR0708:7)			Successful performance	No performance issues
Notes on AR T2 (09-10)	'Our Accident and Emergency (A&E) Department dealt with a further pressure when we found that waiting time figures had been falsified. Swift action was taken in line with our code of governance and a turnaround project was implemented, which included new checks and reporting procedures. Since then the department, supported by colleagues Trust-wide, has delivered effective and sustainable improvements to the standard of admitting, treating or discharging patients within four hours. By the end of the year we had become one of the best performing trusts in the North West for this standard.' (AR0910:8)			Successful performance	Despite performance issues relating to the falsification of A&E times, the Trust amended the problem and performed successfully.

	'During the year we identified significant possibilities for collaboration with the Countess of Chester Hospital NHS Foundation Trust.** Clinicians and other staff from both trusts are becoming actively involved in exploring opportunities jointly to develop higher quality, efficient and sustainable services for patients.' (AR0910:9		
Process			
Service Improvement Approach	T1: For 2008/09 the Trust has engaged with its Governors to develop a range of objectives for service improvement. The Trust intends to build on the experience of using lean management techniques to help to deliver a range of improvements. (AR0708:17) T2: **Wirral Excellence in Healthcare System (WEHS)** WEHS was introduced in early 2009 and throughout the year in view it has become an increasingly valuable improvement initiative. Based on the renowned Toyota production system, it provides ways of enabling and encouraging staff across our Trust to make changes. (AR0910:27) T2: A new five year strategic plan for the implementation of WEHS was approved by our Trust Board in January 2010. (AR0910:27)	T1: Few projects T2: Systemic	T1: Lean is identified as a methodology used by the trust to deliver improvements. T2: Clear identification of Lean underpinning a *system* approach.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: Hospital goals centred around 'hospital flow'. T2: Training and RIEs: ' A series of different education events was held; 1,600 staff attended 'all staff' sessions, while specific two and three day events for consultants and leaders attracted 145 attendees. Six rapid process improvement workshops were held' (AR0910:27)		
Interpretation of Lean implementation	T1: Few projects T2: Systemic	T1: Few projects T2: Systemic	
Other Notes	**Countess of Chester are implementing Lean systemically through their Trust.		

Case 53

Construct	Data Collected			Categorical interpretation	Rationale
Wrightington Wigan and Leigh NHS FT					
Context (external)					
SHA	North West			NW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Wigan and Leigh				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT2	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
		1st December 2009			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Andrew Foster appointed Jan 2007.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'A progressive trust, forward thinking an innovative in our approach.' 'It has been an exciting and challenging year for the Trust, with each directorate demonstrating commitment and improvements to the care we provide to our patients..there is much to celebrate'			Successful performance	No issues reported
Notes on AR T2 (09-10)	The Trust has seen many achievements and some challenges and frustrations. We have continued to meet almost all of our performance and financial objectives and to make excellent progress with our quality agenda. In particular, we are very proud of our cleanliness, our continuing low rates of MRSA Bacteraemia and Clostridium Difficile and of further improvement in both Hospital Standardised Mortality Ratio (HSMR) and further reduction in the number of deaths in hospital…We have struggled in each of the last three years to consistently achieve the government target that 98% of patients should wait no more than four hours in our Accident and Emergency Department. Once again we failed to meet this target in the early winter months and especially in January when we had exceptional problems caused by snow and ice. However, much hard work from many people has now			Performance issues	The trust has failed to meet targets

	really begun to produce results and February and March saw us achieve over 99%, despite being very busy winter months…we do have a particular challenge in orthopaedics where there is high demand for our highly specialised services. The aggregate performance for the year for admitted patients exceeded 90% and non-admitted patients achieved over 96%. The biggest failure at speciality level was orthopaedics.		
Process			
Service Improvement Approach	T1: The trust is embarking on leveraging LEAN approach to facilitate future efficiency savings (AR 0708). ... The Trust's objective is stated as 'to complete four Lean value stream improvement projects' (AR0708:12) T2: Over the next year it is intended to involve an increasing number of staff in Lean initiatives and to provide training and accreditation in improvement techniques. (AR0809:27)	T1: Few projects T2: Few projects	Inference that a few projects underpinned by Lean methodology in T1 and T2.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Porters have been involved in Lean project to improve admissions. Project at Wrightington to use LEAN to improve all aspects of pathways (AR0708:11) T2:' A "Lean" approach to managing Outpatient bookings is being piloted in four clinical specialisms, and is expected to eliminate a large proportion of appointment cancellations. In the Pathology laboratory, turn-around times for tests have been reduced by bringing samples in sooner, improving processes and smoothing the flow of work through the Department. Several other projects are under way, including the prevention of readmissions and the improvement of the Trust's recruitment processes. Over the next year it is intended to involve an increasing number of staff in Lean initiatives and to provide training and accreditation in improvement techniques' (AR0910:27) T2: The Pathology Lean project included a major re-design of serology testing which has demonstrated considerable service improvement, evidenced by cost reduction, increased capacity and the greatly reduced turn around times from several days to a few hours for most serology tests. Conventional microbiological culture for diagnosis of tuberculosis often takes more that four weeks to detect positives. Microbiology have introduced a new automated continuous monitoring system that identifies positives as they occur which is usually between four and 14 days. Faster results can improve patient care and lower healthcare costs by reducing hospital stays and optimizing equipment and staff utilisation. Throughout 2009 Pathology has worked with a number of GP practices rolling out the order communications system to those able to connect. These practices are now using the system routinely to order their pathology	T1: Few projects T2: Few projects	A few projects are identified in T1 and T2.

	investigations and view patient results with a corresponding improvement in data quality. This system is now about to be rolled out across the Trust.		
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes			

South Central

Case 54

Basingstoke and North Hampshire NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Basingstoke, Tadley, Alton and Bordon as well as surrounding towns and villages in north and mid Hampshire and west Berkshire.				
Population/Location Characteristics	This area is rather more affluent than the nation as a whole, but many patients still present the health problems associated with deprivation and social breakdown. The local population is growing rapidly and over 25 per cent are 65 or over.				The population determines the demand of hospital services
Staff	2800			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st December 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Mary Edwards appointed January 2003	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	We started the year in a strong position and continued our sound financial management producing a surplus of 4.9million. In addition the Trust has delivered excellent performance against NHS targets (AR0708:7)			Successful Performance	No performance issues reported
Notes on AR T2 (09-10)	We started the year in a good financial position and continued through the year: despite the pressures on the service we managed a surplus for reinvestment of £0.2m at year end. In October 2009 we heard that the Foundation Trust had achieved the high ratings of Good for „quality of services" and Excellent for „use of resources", in the annual health check published by the Care Quality Commission.			Successful Performance	No performance issues reported
Process					
Service Improvement Approach	T2: The very difficult financial climate became apparent early in the year and we set up a			T2: Few projects	A proliferation of improvement projects

	dedicated team to lead the organisation through this. Our productivity project, formally known as the Prudence Project, is well established across the organisation. Staff are working hard to meet the challenges of saving money whilst continuing to provide excellent patient care. Although our top priority is patient care, we recognise that the best care is not necessarily the most expensive. The Prudence Project has initiated 200 projects and the first 120 of these that have been costed will release £6million in savings. (AR0910:8) T2: Under the sub-heading 'Culture': Prudence has become a visible presence across the Foundation Trust, and a Prudence email address has been set up (and used extensively by staff) to capture money-saving ideas. The Foundation Trust has enrolled 15 staff on an NVQ level 2 in Lean techniques (a process-improvement methodology), and a number of staff has completed service improvement and Lean training. The Chief Executive and other Executive Directors have taken a lead in talking to groups of staff about their ideas and the need for more efficient working. Existing Foundation Trust communication tools have been carrying the Prudence message since October 2009.		in the Trust alongside Lean training.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	The Foundation Trust has enrolled 15 staff on an NVQ level 2 in Lean techniques (a process-improvement methodology), and a number of staff has completed service improvement and Lean training. The Chief Executive and other Executive Directors have taken a lead in talking to groups of staff about their ideas and the need for more efficient working		With the presence of NVQ Lean training and the prevalence of improvement projects in the trust it is inferred that a few projects will be underpinned by Lean thinking.
Interpretation of Lean implementation	T1: No Lean T2: Few projects	T1: No Lean T2: Few projects	
Other Notes			

Case 55

Buckinghamshire Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Buckinghamshire, Thame (Oxfordshire), Tring (Hertfordshire) and Leighton Buzzard (Bedfordshire)				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Fair	Weak		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Anne Eden appointed Dec 2006	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	‘a remarkable year of progress. It is by hard work, dedication and focus that we now find ourselves in the enviable position of being among the best performing Trusts regarding hospital acquired infections. Our recent history has been difficult, but it has yielded lessons that are benefiting the wider NHS as our practice in the management of C. difficile now helps shape the national approach to this issue. Our largest commissioner by far, Buckinghamshire PCT, has a significant financial shortfall. To address this, the PCT has signalled its intentions to reduce the amount it spends on our services for their patients…The year ahead will undoubtedly be one of enormous challenge			Successful performance	The trust reports successful performance
Notes on AR T2 (09-10)	We are particularly proud of the strides we made as an organisation to improve service quality and safety, endorsed by the Care Quality Commission‟s „good‟ rating in the Autumn. This was an improvement from fair in the previous year, and something we want to build on in 2010/11. You will read about the service standards we are implementing, with over 60 per cent of staff now trained in this new approach aimed at delivering consistently good			Successful performance	No issues reported.

	experiences for our patients….It was a real disappointment to have to pause our NHS Foundation Trust application in the summer because of the non-recurring financial deficit we reported for 2008/09. With hard work and commitment from all areas of the organisation and some support from South Central Strategic Health Authority, we are delighted to report a breakeven position for 2009/10, and that our cost improvement programme was achieved in full. This will stand us in good stead for resuming the NHS Foundation Trust application		
Process			
Service Improvement Approach	T2: The Trust has a central service redesign and development team, the Patient Services Institute (PSI). The PSI supports the divisions by promoting Lean principles and methodology as well as providing facilitation, data analysis, project management expertise and training.	T2: Few projects	A few projects are supported by the an internal team promoting Lean principles and methods
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: No evidence T2: Key PSI projects in 2009/10 included: **Urgent care reform -** There is continuing whole system focus on improving the urgent care pathway both in the community and in hospital. Within the Trust, a programme of changes to the pathway for medical patients was launched which is aimed at producing significant benefits by simplifying the care pathway, streaming patients according to need, reducing the number of hand-offs between different medical teams, and enhancing the concept of a seven day emergency service with new access to diagnostics and therapy support now available at weekends. The programme is being carried out in conjunction with NHS Buckinghamshire, which is also investing in improved primary care service provision to prevent unnecessary admissions to hospital through a programme called ImPACT. **The productive operating theatre -** The productive operating theatre is a national change programme developed by the NHS Institute for Innovation and Improvement which was launched in the Trust in December 2009. It looks at all aspects of the pathway for patients undergoing surgery in theatres. The modular programme focuses on improving quality in four dimensions: patient experience and outcome, reliability and safety of care, value and efficiency, and team performance and staff well-being. The approach involves staff using 14 practical tools to measure and compare their performance locally as they make improvements to gain better quality and value for patients and taxpayers. The foundations have now been laid to reap tangible positive results from the programme in 2010/11. **Two-week symptomatic breast referrals -** This project aimed to ensure compliance with the new standard that all symptomatic breast referrals should be seen by a specialist within two weeks (by 1 December 2010). Previously, only suspected cancer referrals were subject to this standard. A half-day workshop brought together key stakeholders –	T2: Few projects	

	including GPs, the PCT, surgeons, outpatients, radiology, cancer services and medical records staff. Together they created a single one-stop process which is now live and providing all patients with investigations and a diagnosis from the surgeon within a half day appointment. **High risk TIA service -** 2009 saw the development of an outpatient service aimed at providing care within 24 hours for patients experiencing a high-risk transient ischaemic attack (TIA). A patient pathway was designed which gives GPs 24 hour access to stroke team members in order to discuss patient cases and then forward detailed referral forms to the hospital. During weekdays, the patient is asked to attend a next day TIA clinic for investigations and diagnosis by a specialist and daily clinic slots are available at both Stoke Mandeville and Wycombe linking with the radiology department. The Trust is now surpassing primary care trust targets set for improving stroke care in 2009/10. **The productive ward –** This NHS Institute for Innovation and Improvement project encourages ward teams to collectively review their whole approach using Lean principles – from the environment provided on the ward, to meal times, drug round management and patient handovers – so as to improve the way they function. During the year, 10 wards participated in the project and benefits are now being felt with hours of nursing time freed up thanks to improvements in areas like drug round management.		
Interpretation of Lean implementation	T1: No Lean T2: Few projects	T1: No Lean T2: Few projects	
Other Notes			

Case 56

Heatherwood and Wexham Park Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Berkshire, South Buckinghamshire, Hillingdon, North West Surrey and North East Hampshire.				
Population/Location Characteristics	Affluent areas such as Ascot, Windsor and Maidenhead, and the large urban areas of Slough and Bracknell which have extensive industrial areas. Slough is home to a high minority ethnic population, while a relatively high proportion of people in Windsor, Ascot and Maidenhead are in the 75+ age band. Within the Trust boundaries there are a number of areas which could have a major impact on our services, for example, London Airport, the M4 motorway, various industrial estates and Windsor Castle. The Trust has worked with all the emergency services in the area to plan for any external event.				The population determines the demand of hospital services
Staff	3500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	June 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Colin Hayton, 37 years NHS experience; 19 as Health Authority Chief Executive in two posts	Julie Burgess, appointed June 2009.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'Came second in the country in the category for the Best Acute Healthcare Organisation for 2007 at the HSJ awards.			Successful performance	No issues identified

	The planned cost improvement programme has been achieved despite costs being 85% of the national average.		
Notes on AR T2 (09-10)	New chairman of the Trust writes: 'I joined Heatherwood and Wexham Park Hospitals NHS Foundation Trust in October 2009 having been appointed by the Foundation Trust regulator, Monitor. This followed a turbulent period during which a worsening financial deficit was uncovered, together with an emerging picture of outdated practices, poor governance, inefficient operations and previous poor management. This had resulted in the Trust being in 'significant breach' of its Terms of Authorisation and Monitor's decision to use its intervention powers. As well as facilitating my appointment to provide new leadership to the Board, Monitor also directed the Trust to appoint a substantive Medical Director. I am delighted to report that we appointed Dr John Wiggins as Medical Director in January 2010. New CE writes: Our Trust reached a turning point in 2009/10. When I arrived in June I discovered that beneath the surface of Heatherwood and Wexham Park Hospitals NHS Foundation Trust there were a number of issues which threatened our future survival. We had weak financial and governance systems and a growing deficit. We were unable to meet some of the national targets and core standards which every Trust must achieve.	Crisis.	Some severe governance problems, inefficient operations and poor management. Intervention by Monitor.
Process			
Service Improvement Approach	T1: The Trust measures its progress each month through a Balanced Scorecard which measures quality of care, achievement of performance targets, workforce measures and financial performance. For the longer term the Trust uses a Strategic Scorecard to look at our strategic position, options for the future, any risks attached to these options and the implementation of longer term plans (AR0708:7). ISO 9001 quality standards have been introduced for housekeeping T1: During 2007/08 the Trust led a number of service improvement projects using Lean principles to improve the quality of patient care and to embed sustainable improvements in areas such as urology and orthopaedic pathways, which have resulted in improved access to earlier diagnosis, assessment and treatment T2: A 3yr transformation programme focused on cost reduction	T1: Few projects T2: No Lean	A few projects based on the use of Lean principles. T2: No mention of Lean methodology
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1:'During 2007/08 the Trust led a number of service improvement projects using Lean principles to improve the quality of patient care and to embed sustainable improvements in areas such as urology and orthopaedic pathways, which have resulted in improved access to earlier diagnosis, assessment and treatment.' (p.8)		
Interpretation of Lean implementation	T1: Few projects T2: No Lean	T1: Few projects T2: No Lean	

Case 57

Construct	Milton Keynes Hospital NHS Foundation Trust Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Milton Keynes				
Population/Location Characteristics	Rapidly increasing population, an area dedicated to rapid population growth by the govt in 2003. The population of Milton Keynes is predicted to grow to 349,000 by 2031, meaning that it will be larger than the cities of Belfast and Cardiff. Furthermore, whereas across the country the 60+ age group is expected to grow by 56%, in Milton Keynes we are likely to see growth in this group of over 150% (AR0910:15).				The population determines the demand of hospital services
Staff	2800			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	225,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	Oct 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1		T2		
	Jill Rodney; appointed 2001. Key strengths in transformational change, strategy development and leadership.		Interim CE Mark Millar, joined June 2010. Having joined the NHS from school as a trainee accountant, Mark has amassed eighteen years experience as an NHS finance director and Chief Executive. Mark's current passion is about aligning service, quality and financial incentives and NHS whole system working in the interest of patients	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'Our financial performance is first-rate and we have succeeded in delivering a healthy surplus of £3.1m for the full financial year.' (AR0708:4) 'A key focus over the year has been to cut waiting times to deliver the right care at the right time. Projects spearheaded by staff have achieved regional, national and international recognition…Innovation by staff and feedback from			Successful performance	No issues reported

	patients and visitors are used to continually improve our services.' (p.6)		
Notes on AR T2 (09-10)	'2009/10 has seen Milton Keynes Hospital NHS Foundation Trust confronting known and new challenges. It has also seen the Trust deliver and sustain real improvements in patient care. More than ever, a balanced picture of our work over the past year is crucial. The negatives are clear: they centre on problems in our maternity services. As a result, we are one of 13 NHS foundation trusts whose registration to provide services (in effect, our licence) with the healthcare regulator the Care Quality Commission (CQC) has conditions. These conditions to our registration require improvements in maternity services, and some other aspects of governance across the entire Trust. Our difficulties in achieving the desired progress with our maternity services also led to an intervention by the economic and performance regulator of NHS foundation trusts, Monitor. We aim to prove that the regulatory conditions on our registration can safely be lifted quickly, and are working hard to achieve this. Our whole team are doing all they can to deliver rapid improvements, to provide the safe and reliable service that our community expects and deserves. They could not be working harder.(p7)	Performance issues.	The trust highlights some performance issues within the organisation.
Process			
Service Improvement Approach	T1: Undertook fractured neck of femur pathway project with NHSI T1: 'Managers and clinicians have embraced the chance to look at new ways of working to eliminate delays and offer patients faster access to treatment locally, looking at every stage from referral to the time a patient receives treatment. Progress includes quicker testing, diagnosis and treatment for patients, improved administration processes and the reduction of the number of attendances patients have for different reasons.' (p.27) T1: 'The Trust won a regional award for developing a rapid 'Straight to Test' service for stomach and other digestive tract related cancers (such as oesophogus and pancreas), which is cutting waiting times and delivering the right care at the right time.' (p.29) T2: Listening to the front-line voice is another thing we are committed to making an 'all the time' thing here – not just an occasional project. Our board 'patient safety walkarounds' already make a real difference to how we listen to staff and patients about what things work well and which are causes of concern – from clinical care through to food temperature. Our board agrees that hearing from individuals is more powerful than seeing written reports (useful as those can be). The introduction of 'patient stories' to top-level meetings has been incredibly powerful. T2: Finance is going to be an issue across the public sector, and the NHS faces much lower growth in spending than has been seen over the past decade. The savings we will make have been identified by front-line staff in a bottom-up process, with individual doctors, managers and nurses, identifying room for improvement and efficiency. Some are small (from things like managing our stock), but put together across the whole Trust, the total saving is significant. No change is not an option: we must change what we do and how we do it. All our recent experience tells us that if we listen to front-line staff, who know how to make changes with least adverse impact on quality and safety, we can deliver these cost savings	T1: Few projects T2: Few projects	A few projects are identified, echo lean principles

	T2: The patient has to be at the centre of everything we do. That must become deeply embedded in the culture of our organisation.		
Elements of Lean? (RIEs, PW, waste elimination etc)	Productive ward a new project		
Content			
Areas identified as under transformation	Website search of 'Lean' identifies microbiology team implementation: 'Milton Keynes is rapidly expanding, and more microbiology monitoring is needed than ever before. The team was shortlisted for the award for their work in implementing service improvements that have effectively reduced the potential risk of error by 'getting it right first time' and improved workflow, which involved ensuring that the right equipment is available in the right place. The Microbiology Team spearheaded improvements by implementing the Lean principles, which originate from industry and focus on creating more value with less work' http://www.mkhospital.nhs.uk/media/news/triple_nomination_success_for_milton_keynes_hospital.asp accessed 27/10/10		
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes			

Case 58

Oxford Radcliffe Hospitals					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Oxfordshire and neighbouring counties				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	9433			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Weak		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Trevor Campbell Davis, appointed 2003	Sir Jonathan Michael appoint late 09/early 10		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	One of the largest teaching trusts in the UK. The Trust has built on the developments and success of the previous year, further developing their performance improvement programme, helping the Trust achieve a surplus for the first time (AR0708)			Successful performance	No performance issues
Notes on AR T2 (09-10)	A difficult financial year for the Trust (p.68) NHS Oxfordshire has announced likely savings of 200million by 2014…it would be wrong to promise service will be unchanged as we address these challenges however safe and efficient care can often be cheaper not more expensive to provide. Delays and inefficiency cost money as well as cause frustration to patients and staff			Change, uncertainty	The chairman/CE statement suggests that changes are in store.
Process					
Service Improvement Approach	T1:'This year we continue our performance improvement programme aimed at improving the patient experience at the same time as improving efficiency of resources' (AR0708) T2: talk of a 'leaner' environment i.e. reduced funding in AR0910; however, website contains a number of examples of Lean implementation in the Trust in Trauma, theatres			T1: Few projects	Programme not explicitly Lean but evidence of a 'few projects' approach (see 'content')

	and so on		
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1:'Work has been done to reform patient pathways to reduce 'waste' and in operating theatres using lean methodology' (AR0708:6 T2: 'Service development, improvement and innovation is continually taking place in the Oxford Radcliffe Hospitals NHS Trust, with projects such as Theatre Direct Admissions, new initiatives in diagnostics and laboratories, patient safety and improving time to care and efficiency on our wards. ' (website: http://www.oxfordradcliffe.nhs.uk/news/servdev/home.aspx accessed 26-10-10) Website: http://www.oxfordradcliffe.nhs.uk/news/servdev/ct.aspx accessed 26/10/10: 'Employing 'Lean' in the CT (Radiology) Department at the John Radcliffe Hospital has improved the area for staff and patients and given the Service Improvement Team experience in 'Lean' techniques. The CT Department is small and self-contained, but it contributes to the smooth running of other areas, such as inpatients and the Emergency Department. Experience from this project will also influence the development of new CT scanning facilities. The 'Lean' team carried out an exercise called 'Voice of the customer', to understand how the service could be improved for inpatients, outpatients, CT staff and ward nursing staff. As a result, simple but effective changes were made. These included: ▪ separating inpatient and outpatient waiting areas ▪ improving signs in the department ▪ enhancing the role of the CT Healthcare Assistant, so that patients are greeted on arrival and have a point of contact while they are in the department. Due to a new scheduling system, nurses can now tell patients in advance when their scan will be, and escort the patient to and from their scan knowing that they will not need to wait in CT. Patients have commented on how much better the service has become, and visitors to the department have been impressed by how calm, uncluttered and organised the area now is.'	T1: Few projects T2: Few projects	A number of projects are described during T1 and T2.
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes			

Case 59

Portsmouth Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Portsmouth, South East Hampshire				
Population/Location Characteristics	South coast of England				The population determines the demand of hospital services
Staff	7000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Ursula Ward, appointed June 2004				No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'More than half a million patients received care in our hospitals and we have continued to reduce the time they waited, provided more specialised after care following their operations, and delivered that care in a cleaner, less cluttered environment … Our excellent financial performance should be noted. Our surplus of £7.3 million is a significant achievement and only came about through the application of strict financial disciplines which required some difficult decisions during the year. (AR0910:4-5)			Successful performance	No issues reported
Notes on AR T2 (09-10)	'the difficult conditions in 2009/10 were reflected in our financial performance and in underperforming against some national targets. The costs of moving into a new hospital, the additional costs arising from our PFI mortgage on the building, the shortage of funding in the local health economy and other factors led us to make a larger deficit than we had planned. Despite some moderation in patient demand for our services, the numbers attending our Emergency Department were 3% more than in 2008/09. This put extreme stress on staff and our finances… The consequence of all this and of the inevitable future reductions in public spending led us to put in place two major developments. The first was a 'turnaround' programme designed			Performance issues	The trust has experienced significant performance issues that has lead to staff losses.

	to examine all aspects of the hospital's operations and make them much more efficient. The second was to work with our local NHS and local authority partners to try to make the entire health system work effectively and without duplication. Both of these linked schemes will force substantial changes in clinical and other practice over the coming months and years – inside the Trust and the wider NHS community. A painful but necessary reduction in staff in early 2010 was part of this change.		
Process			
Service Improvement Approach	T1:Modernising our working practices is a high priority and a dedicated team is leading this work. In partnership with the Lean Enterprise Academy, we are making excellent progress to minimise delays and inefficiencies in our processes. Early successes include significant improvements within Pathology and Cardiology. The Trust embarked on a three year "Process Excellence" programme using Lean thinking which began in industry. (AR0708:25) T1: The Trust will also continue to operate a Programme Management Office tasked with monitoring and reporting the financial and non-financial benefits of workstreams covering areas such as reduced length of stay, improved theatre utilisation and better outpatient clinic utilisation. (AR0708:42)	T1: Few projects	The trust clearly identifies the use of Lean in its improvement programme.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Projects begun included: • Work to improve the recruitment process and reduce the time taken• "Releasing Time to Care" Reducing the waiting time for emergency admission for angioplasty from 21 days to 4 days • 90% of histopathology specimens being turned around in 10 days rather than four weeks • Reducing the time for ultrasound scan -outpatient referrals from more than 4 weeks to 2 weeks		
Interpretation of Lean implementation	T1: Few projects T2: No Lean	T1: Few projects T2: No Lean	
Other Notes			

Case 60

Royal Berkshire NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Reading, Wokingham and West Berkshire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Professor Ann Sheen OBE has been CE at the Trust for 35 years moving up the ranks from a nurse to CE	Edward Donald appointed March 2010		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	The Trust has never been out of the top 10 hospitals. Indeed, at the year end the Trust was number two in performance in A&E throughout the whole country. Although we have made a good start we still have much to do in developing the managerial and service culture, if we are to achieve our objectives as a patient-led, high quality customer service organisation (AR0708)			Successful performance	Celebrating success
Notes on AR T2 (09-10)	'during the winter of 2009/10 our employment of agency staff was greater than planned and therefore during the remainder of the year a cost saving plan was required to ensure that we remained financially secure. By the year end we were on the way to getting ourselves back on plan, thanks to the tremendous efforts of staff who saw us through some of the worst snowfalls in recent years and the high levels of the winter vomiting bug norovirus. Our task was made more challenging by the need to plan for the financial downturn which will affect the whole country in 2010/11.			Success, recovery	The trust was facing challenges related to finance but has managed to recover
Process					
Service Improvement Approach	In 2007/08, the Trust continued its Efficiency Planning programme designed to improve overall efficiency, in financial terms, for example,			Financial focus	T1: The trust does not appear to be implementing lean and

	through better use of assets, and operationally, by reviewing and redesigning organisational processes to increase effectiveness and reduce waste. (AR0708:21) T2: The Trust continued with its efficiency programme, through better use of assets and by reviewing processes to increase effectiveness and reduce waste. The overall aim is to improve the quality, efficiency and effectiveness of services for patients and to make the Trust a better and more efficient place for staff to work. (AR0910:11) T2: During 2009, we have continued with our programme of quality improvement projects where staff have identified and implemented changes to ensure safe, personal and professional care to every patient, every time. This continual improvement is part of our total quality management approach to improving the patient experience (AR0910:17)		is focused on reducing cost. T2: Continuation of the programme but the wording is less focused on financial savings.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: 'involvement in the Productive Ward and other LEAN projects' (AR0910:77)	Few projects	
Interpretation of Lean implementation	T1: No Lean T2: Few projects	T1: No Lean T2: Few projects	
Other Notes			

Case 61

Southampton University Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Southampton and South West Hampshire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	8000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Fair		
Leadership					
Chief Executive (name and background)	T1		T2		
	Mr Mark Hackett, Chief Executive Mark joined the Trust as Chief Executive on 2 August 2004		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Annual report 0708 does not include CE summary			Successful performance	In lieu of the commentary the succeeding year category is used.
Notes on AR T2 (09-10)	'I am perhaps most proud of the significant improvement we recorded in the NHS staff survey. The results show that, after some really challenging years, we are starting to change our culture and truly become a hospital that staff are proud to work for and patients want to be treated at. (AR0910:3)			Successful performance	The inference is that the trust has performed successfully.
Process					
Service Improvement Approach	T2: (p.11) Our staff often have ideas for ways to improve patient care and efficiency and are encouraged to share their thoughts. In the coming year, we will launch a campaign in which staff will be rewarded for sharing ideas that can save the Trust money. T2: **The Service Improvement Skills Programme** *A multi-disciplinary programme led by the South Central SHA Service Improvement Team providing organisations with*			T2: few projects	Lean training is identified

	access to a range of learning for supporting the development of a continuous improvement culture from website [http://www.suht.nhs.uk/Media/suhtideal/TopNavigationArticles/EducationalGovernance/ManagementandLeadershipMapNEWS/SISkLEANevents2010.pdf accessed 28/10/10](http://www.suht.nhs.uk/Media/suhtideal/TopNavigationArticles/EducationalGovernance/ManagementandLeadershipMapNEWS/SISkLEANevents2010.pdf) ... This four-day, non-residential course will provide you with an understanding of LEAN methodology and how it can be applied in a healthcare setting		
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: Training, everyday ideas lean thinking service redesign in theatres, outpatients and length of stay… the Acute Medical Unit where the multi-professional team developed the STATing (Senior Triage and Treat) process. This has resulted in 47% of patients referred to the unit having an admission avoided. This in turn has enhanced patient experience, not only for these patients but also for others across the Trust, by releasing capacity in the system (Quality Report 0910:10)	T2: Few projects	
Interpretation of Lean implementation	T1: No Lean T2: Few Projects	T1: No Lean T2: Few Projects	
Other Notes			

Case 62

Winchester and Eastleigh Healthcare NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South Central			SC	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Mid Hampshire; predominantly Winchester, Eastleigh, Andover, Stockbridge, Bishops Waltham, Alresford and the surrounding area.				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2600			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Weak	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Martin Wakely, appointed 2007	Acting CE Dr Chris Gordon		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'WALKING THE floor is the best way for the man who took the top job last summer to meet his staff. Chief Executive Martin Wakeley, makes it his mission to see for himself how his colleagues are faring and to find out what patients think…Asked about his first impressions of the Trust, he recalls: "Everyone I spoke to had something good to say about their service but they weren't exactly shouting it from the rooftops. The more I asked, the more I learnt about the quality of the services here. "What I would like is for people to be more ready to focus on the positives because I think this rubs off on our patients and each other. "Plus, staff tend to think that this is a 'small' organisation compared to others. It's really not – in many ways we punch well above our weight and boast some world class clinical expertise." He added: "The Trust had taken some tough decisions, resulting in jobs being lost and investment in the sites stalled. This didn't help with the general outlook and wasn't very motivating. "It was clear to me that a bit more confidence about the future and some work to improve the estate would help and I believe it has."			Successful performance	No issues identified

Notes on AR T2 (09-10)	Collaborative working was a key theme for 2009/10 and will be an even bigger focus for 2010/11. As a Trust, we had hoped to create a formal partnership with Hampshire Community Health Care (HCHC). This opportunity was awarded to another provider. However, our application was praised for the very clear passion we have for patient care. … Whilst we delivered a small surplus this year, ie our income slightly exceeded our expenditure, our historic deficit remains. This stands at £1.9 million and will be added to the significant cost pressures facing us in 2010/11. Putting patients first remains our guiding principle in steering the difficult path between making savings and maintaining and developing quality services. Our innovative approach will need to come to the fore in 2010/11, coupled with a cast iron grip on our finances. (AR0910:2)	Performance issues	The trusts is struggling to get to grips with finances.
Process			
Service Improvement Approach	T2: Our drive for continuous improvement is also demonstrated by having executive membership on the programme board of the Strategic Health Authority's Advancing Quality initiative. This is a detailed project which uses clinical data to identify areas where we can affect outcomes for our patients. This includes, for example, patient care pathways for acute myocardial infarction (heart attack), hip or knee surgery. T2: some passing references to Lean using search term 'Lean' on the Trust website but nothing detailed	T2: Few projects	Inference that the projects are using Lean methodology based on the references to Lean on the website
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: PW		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: PW T2: Few projects	T1: PW T2: Few projects	
Other Notes			

South East

Case 63

Ashford and St Peter's Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Boroughs of Runnymede, Spelthorne, Woking and parts of Elmbridge, Hounslow, and Surrey Heath				
Population/Location Characteristics					The population determines the demand of hospital services
Staff				Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Paul Bentley	Andrew Liles joined the Trust in January 2009. Andrew is the Chief Executive lead for leadership and talent management for the NHS in the South East.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	The last year has had its high points and low points, with a significant amount of time being devoted to the discussions on merger with Frimley Park... the cultural differences between us became more apparent and by the end of the financial year, I could not see a formula which would properly reflect the great clinical and growing financial strengths of this Trust…The year has seen many changes of staff at all levels with retirements, transfers and the last remnants of the 'Turnaround' programme. (AR0708:10). We have changed from a typical NHS victinm trust to one keen to embrace change. We have gone through major change and reconfiguration.	Change, uncertainty	The trust has undergone a period of change and uncertainty
Notes on AR T2 (09-10)	Our best ever performance and strong improvements in staff and patient experience (p7) Financially this has been a successful year: we met all our financial targets and finished the year with an operational surplus of £6.3m. In addition, we achieved good results against the national targets (see page 43). Our Foundation Trust application continues to proceed well and we are entering the final stage of scrutiny with Monitor, the formal regulator. (p9)	Success, recovery	The trust notes a successful year following an uncertain period, hence the categorisation of 'recovery'.
Process			
Service Improvement Approach	T2: Last summer we introduced a programme to improve our services called EQUIP (Efficiency, Quality, Improvement and Productivity). It is based on the Lean methodology used extensively in the car industry. This methodology has helped us to transform services to deliver higher quality with less waste and inefficiency. Our EQUIP team has been working alongside a company called Simpler who are experts in applying lean techniques in different environments. (p.40)	T2: Programme	Clear identification of an improvement programme based on Lean principles and implemented with assistance from external management consultants.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: PW T2: external consultants		
Content			

Areas identified as under transformation	T1: productive ward programme on kingfisher ward to be rolled out to further wards 08/09 T2: We aim to improve the discharge of patients from our hospitals through: refurbishing our discharge lounge and improving • patient flow; improving and shortening our multi-disciplinary • ward rounds, including use of a workstation on wheels with wireless technology; reducing the amount of documentation from 36 • core pieces of paper to 24 and reducing staff time on paperwork; and reviewing who is discharging patients (i.e. it • doesn't always have to be a doctor). We aim to improve our day surgery service through: improving the flow of patients through the unit;• standardising operating instrument sets so it's • quicker and easier to prepare for operations; improving the booking process; and• collecting patients from the ward so operating • lists now start exactly on time. The recruitment team has embarked on a service improvement project to review their processes, with the aim of reducing the average recruitment timescale by around a third. (p.25)	T1: PW T2: Programme	A number of projects are mentioned in T2
Interpretation of Lean implementation	T1: PW only T2: Programme	T1: PW only T2: Programme	

Case 64

Brighton and Sussex University Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Brighton and Hove City and Mid Sussex				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6500			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Duncan Selbie, Appointed July 2007	Same.		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	In 2007/08 we made some remarkable improvements in a number of areas – step changes in our performance which we should all be proud of			Successful performance	No issues reported
Notes on AR T2 (09-10)	This has been a significant transitional year for the Trust finances. With the support of the whole organisation, and the local healthcare commissioners, the Trust has delivered a surplus of £4.6m (AR0910:24)			Successful performance	No issues reported
Process					

Service Improvement Approach	T1: Lean and Six Sigma combined approach see attached document including application of bed modelling. Organisation wide transformation is goal. Stated value: we will foster a supportive culture in which we learn from mistakes, share best practice and encourage staff to maximise their potential (AR0708:2) T1: The service improvement team have themselves trained over 300 staff in the past few years in capacity and demand measurement, process mapping and redesign, Theory of Constraints and discharge best practice. Over the next 3 months it is planned to roll out a "Lean Simulation Game" designed by the NHS Institute for Innovation and Improvement. This is a practical interactive game to help teams to understand the principles of lean thinking. The game will be facilitated with teams of 10 to 20 people as a trigger for further improvement of performance and elimination of waste. (Lean Thinking Board Doc. 2007)	T1: Systemic	The stated value of the trust is organisation wide transformation based on the use of Lean and Six SIgma. A considerable amount of training us taking place during T1 which suggests that the trust is committed to Lean implementation across the whole organisation and aligned to strategy
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Clinical leadership and staff involvement combined with service improvement expertise can and has made significant improvements. Local examples include stroke care pathway, cataract surgery, reducing delays for imaging and improving discharge to reduce length of stay.(Lean Thinking Board Doc. 2007)	T1: Systemic	Clinical leadership and Lean combined
Interpretation of Lean implementation	T1: Systemic T2: No mention of Lean…	T1: Systemic T2: No Lean	
Other Notes			

Case 65

Dartford and Gravesham NHS Trust			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South East	SE	
Context (Internal)			
Physical Attributes, Structure			
Area Served	Dartford, Gravesham and Swanley, and to an increasing number of patients from Bexley, and other neighbouring areas in Essex, Maidstone, Sevenoaks and Medway.		
Population/Location Characteristics	expected to grow significantly over the next ten to fifteen years, associated with major local redevelopment. 25,000 new homes are planned as part of the Kent Thameside development, with population growth estimates of up to 40,000. This will result in a 26% population growth in Dartford alone by 2016. Dartford has a younger population than the average nationally and the health of the population gives a mixed picture. • Life expectancy is increasing, but there are large differences between the different income groups. Women can expect to live shorter lives than in England as a whole. • While overall poverty is low, over 8,000 people are dependent on means tested benefits and nearly 3,000 children are living in low income households. Gravesham has a younger population than is average nationally and an increasing immigrant population and settled ethnic minority communities	High population growth	The population determines the demand of hospital services
Staff	1900	Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	270,000		
Trust Performance			
Foundation Trust Authorisation	T1 / T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Fair; 2007/08: Excellent; 2008/09: Excellent		Performance not categorised
Use of Resources (CQC)	2006/07: Good; 2007/08: Good; 2008/09: Fair		
Leadership			
Chief Executive (name	T1 / T2		

and background)	Mark Devlin	Susan Acott, April 2010	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)				
Notes on T1 AR (07-08)	The Trust maintained and continued to build upon its reputation as the best performing NHS Trust in Kent based on the Healthcare Commission's 2006/07 Annual Health check Quality Score.		Successful performance	No issues reported
Notes on AR T2 (09-10)	The Trust has achieved the best possible rating ("Excellent") from the Care Quality Commission for Financial Management, in the Annual Health Check ratings. The Trust's rating for Quality of Services was "Good". This places Darent Valley Hospital amongst the highest rated hospitals in South East London and Kent.		Successful performance	No issues reported
Process				
Service Improvement Approach				
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: PW			
Content				
Areas identified as under transformation	Wards			
Interpretation of Lean implementation	T1: No Lean T2: PW only		T1: No Lean T2: PW only	
Other Notes				

Case 66

East Kent Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	700,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT2	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
		1st March 2009			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Fair	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Stuart Bain, appointed August 2007	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	2007-08 was an extraordinary year at East Kent Hospitals University NHS Trust and we are extremely proud of what we have achieved … Efficiency has also brought with it financial stability, enabling us to go forward with further investments to improve our services in the future. (p.3)			Successful performance	no issues reported

Notes on AR T2 (09-10)	Not everything has been smooth sailing – meeting our 18 weeks from referral to treatment target and our 62 day cancer access target was problematic in the second half of the year. As you would expect, we have worked hard and taken on board advice from other organisations to develop plans that will resolve these difficulties early in 2010/11. As we close 2009/10 and start a new financial year we know that more difficult financial times are ahead. We are already working on ways to deal with these and other challenges and we are confident we will succeed (p.4)	Performance issues	The trust has experienced performance issues
Process			
Service Improvement Approach	T1: The Trust is working hard to become one of the most efficient providers of hospital care in England. We are seeking to achieve this through our 'Clinical Systems Improvement' initiative. This programme, promoted by the NHS Institute for Innovation and Improvement, is a structured way of reviewing and improving working practices to raise the quality of care across the whole healthcare system whilst making best use of available resources. Our performance in 2007/08 demonstrates the effectiveness of this approach and we will continue to roll out and develop this programme of work in 2008/09. (AR0708:3)… Use of a dashboard by the Trust Board comprising of improvement and stretch indicators to monitor performance and support the achievement of the aspired standards that service users can expect and the Trust aims to provide. (p.8) T2: The Trust has set an ambitious programme over Programme four clinical pathways to improve the efficiency and effectiveness of the services we provide (p.57). The Lean Improvement programme continues to focus on improving emergency care pathways at WHH and QEQM. A systematic whole system review is planned in collaboration with partners.	T1: Clinical Systems improvement initiative T2: Programme	T1: The initiative is likely to encompass Lean thinking but it is not explicitly identified during T1. T2: The trust acknowledges the use of Lean methodology as part of an improvement programme in T2.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			

Areas identified as under transformation	T2: The Trust has adopted the LEAN methodology to identify service improvements that improve the effectiveness of the patient pathway whilst contributing to economy and efficiency. The patient booking system has been prioritised as part of this programme. (AR0910:81) The first pathways redesigned were the: • Lower gastro – intestinal pathway from GP referral via rapid access to treatment outcome and; • Emergency pathway focusing initially on the pathway through A&E at the William Harvey Hospital. (AR0910:39)	T2: Programme	
Interpretation of Lean implementation	T1: No Lean T2: Programme	T1: No Lean T2: Programme	
Other Notes			

Case 67

East Sussex Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	5000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Fair	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Kim Hodgson	Darren Grayson, April 2010		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	This has been a year of improvement and innovation at East Sussex Hospitals NHS Trust…During the year we have finally cleared all our debt which has existed since 2002. This puts us in a strong position to ensure investment in local hospital services when we become an NHS Foundation Trust which we plan to achieve during 2008/09.			Success, recovery	Success following repayment of debt

Notes on AR T2 (09-10)	We have been through a number of external reviews by our regulators during the year. Although these do not grab the headlines, they help provide confidence and assurance to the trust board and to the public that we are getting the important things right…But the pressure has shown in some areas too. With our hospitals busier than expected, with the unprecedented snow over the winter period, and with particular challenges in 2010 from norovirus outbreaks, we have narrowly under-achieved against targets for 18 weeks between referral and appointments and for four-hour waits in our Emergency Departments. We will be working hard to improve in these areas in the future. I am pleased to report that the trust achieved a small financial surplus in the year amounting to £350,000 before impairments and £51,000 after. Given some of the pressures we have faced in 2009/10, it is a real achievement to have delivered this financial outturn. But it is less than the £1 million surplus for which we planned and we will look to do better in 2010/11.' (p.5)	Performance issues	The trust has experienced performance issues in T2 though they do not appear too serious.
Process			
Service Improvement Approach	T2: During the past year an initiative has been underway in the trust to improve practices on wards, which have a direct impact on patient care. The major piece of work underway has been 'Releasing Time to Care: The Productive Ward'. A similar approach is to be introduced in our operating theatres with a project called 'Productive Theatres'. The aim of the project is to make best use of theatre time to ensure more patients can have their operation.	T2: PW	The trust highlights the use of PW and Productive theatres, both approaches are led by the NHS INstitute for Innovation and Improvement
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Wards and theatres. The Productive Ward work is being undertaken on 29 wards and will be rolled out to all the wards by December 2010.		
Interpretation of Lean implementation	T1: No Lean T2: PW	T1: No Lean T2: PW	
Other Notes			

Case 68

Frimley Park NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics	Located in Surrey, close to the Hampshire and east Berkshire				The population determines the demand of hospital services
Staff				Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	April 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Andrew Morris, Appointed 1991	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'Our third year as a foundation trust has seen a continuation of the high levels of performance demonstrated in the first two years of our operation. In October 2007 we received a double 'excellent' for quality of service and use of resources in the Healthcare Commission's annual healthcheck ratings – one of only 19 trusts nationally to do so. We are optimistic of receiving a similarly good result when ratings for 2007-08 are published in October 2008.' (p.6)			Successful performance	No issues reported

Notes on AR T2 (09-10)	We are delighted to say that during 2009-10 the Trust was able to deliver a programme of major improvements for patients while maintaining our reputation as one of the best performing and safest hospitals in the country… All this in a year when we faced the added challenges of record levels of emergency and planned activity, one of the worst winters in living memory, and the threat of swine flu… The healthcare monitoring agency Dr Foster rated Frimley Park as the eighth safest hospital in England, behind several specialist acute trusts. In addition our mortality rates remained in the lowest 15% nationally… Our financial performance over several years puts us in a good position to meet some of the huge financial challenges that the NHS now faces, with the gap between NHS funding and demand likely to grow significantly. (p.7-8)	Successful performance	No issues reported
Process			
Service Improvement Approach	T1: piloting of the Productive Ward Initiative 'Releasing Time to Care' which is currently being rolled out within the organisation T2: In view of the challenges facing the Trust as NHS finances come under growing pressure, the Board has decided to recruit an additional executive director with the remit of transformation, who will assist the Board in meeting the challenge of delivering improvements in quality and service to patients in a much tighter financial environment. We are delighted to welcome Paula Head, who joined us on 1 June 2010, as Director of Transformation. Paula joined us from NHS Berkshire East where she had a similar role as director of commissioning and service redesign… The new director will have responsibility for the transformation of processes and pathways to improve patient experience and overall efficiency, alongside information technology and informatics. (p.48)	T1: PW T2: No Lean	T1: Identification of PW in the AR. T2: Lean is not explicitly mentioned although one could argue that the Trust is 'tentative' given the emphasis upon the recruitment of a new director of transformation.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Wards		
Interpretation of Lean implementation	T1: PW T2: No Lean	T1: PW only T2: No Lean	
Other Notes			

Case 69

Maidstone and Tunbridge Wells NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	south of west Kent and parts of north east Sussex				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4700			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Weak	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Weak		
Leadership					
Chief Executive (name and background)	T1	T2			
	Glenn Douglas, appointed Oct 2007	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	The past year has been a time of intense public scrutiny for our Trust, with the need to face some harsh realities and make significant changes for the better... The findings of the Healthcare Commission's investigation into outbreaks of Clostridium difficile in our hospitals between 2005 and 2006 had a profound effect on everyone who relied on the Trust to maintain the highest standards of care – from our patients and their relatives to the public and our staff. We both came to the Trust to build a new management team following the report's publication in October 2007… The culture of the organisation is also changing rapidly. Our highly skilled and innovative staff have more autonomy now to make decisions and there is greater ward to board transparency (AR0708:2)			CRISIS	The trust faced harsh scrutiny during the past year related to performance, particularly around infection.

Notes on AR T2 (09-10)	By 2013, we should have achieved Foundation Trust status and we want to be known for our commitment to continuous improvement in everything we do. (p.6).	Successful performance	No issues highlighted.
Process			
Service Improvement Approach	T1: Starting the national Making Time to Care – Productive Ward programme on selected wards, to increase nursing time with patients T1: Staff working in all areas of the trust were involved in clinically-led service improvement schemes during the year. Further staff-led improvement schemes are being developed during 2008/09 to help deliver safe, sustainable services. The Trust will ensure schemes benefit patients, improve clinical standards and provide value for money. (AR0708:14) T2: PW, 'Every member of staff on the showcase wards report that they can do their job better'. (AR0910:11)	T1: PW	Improvement work appears to be centred mainly around PW.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Wards T2: Wards and Theatres		
Interpretation of Lean implementation	T1: PW T2: PW	T1: PW T2: PW	
Other Notes			

Case 70

Royal Surrey County Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Guildford and Surrey				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2800			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	320,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT2	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
		1st Dec 2009			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Nick Moberly since Jan 2006	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	The Trust has maintained the highest standards of clinical quality and was recognised nationally as one of the top 30 Trusts with the lowest mortality rates…Our staff have all worked tirelessly through, what was at times, a particularly demanding year…the Trust delivered a surplus of £2.5 million – a significant improvement on last year's break-even position.			Successful performance	Although a 'demanding year' performance was successful.

Notes on AR T2 (09-10)	CELEBRATION: Following a lengthy and involved process, the Trust was licensed as an NHS Foundation Trust on 1st December 2009. The Trust also delivered consistently high quality services for patients and good financial management. Our services have been rated as excellent by the Care Quality Commission for the second year running and are the only Trust in the South East Coast region with this rating. This rating and the delivery of key targets is testament to the hard work and dedication of all of staff who have all contributed to the continued success of the organisation. This has been against a backdrop of continual activity growth over the last few years and our first four months as an NHS Foundation Trust are no exception. In addition to treating more patients, the Trust is now almost two years into its major change programme Patients 1st, which has already transformed the way that some of our services and care is delivered to patients.	Successful performance	No issues reported.
Process			

Service Improvement Approach	T1: In the summer of 2008 we will be launching an exciting clinical and operational change programme – "Patients First" – which will focus on ensuring that: • We deliver outstanding patient safety and the best clinical quality and outcomes. • We offer compassionate, empathetic and respectful care for all our patients and their families. • Our services are organized in a streamlined and user-friendly fashion so that we can offer unrivalled ease of access and convenience for our patients. The aims will be delivered through a number of initiatives, projects and changes and we will be involving our patients and staff in the programme to ensure that we make the right changes that lead to the most benefits and best results (p.5) T2: In addition to treating more patients, the Trust is now almost two years into its major change programme Patients 1st, which has already transformed the way that some of our services and care is delivered to patients. T2: 2009/10 also saw the launch of our 'Creating capacity for continuous improvement' programme, which is closely linked to our Patients First programme. The programme has already trained over 80 "Yellow belts" and the first wave of "Green belt" training is just concluding. All trainees receive a mix of simulation based learning and project based mentoring in the application of the Trust's own change management methodology. The trainees have all used this to implement and run a number of change projects and initiatives across the organisation.	T1: Echo Lean - Tentative T2: Systemic	T1: Change programme echoes principles of Lean: 'value', streamlining processes but Lean is not explicitly identified. Because the outline of the project appears to be in its early stages the trust is categorised as 'tentative' in T1. T2: The level of training associated with the change programme suggests that the trust is committed to organsiation wide and strategically aligned implementation of Lean accompanied by extensive improvement and Lean training
Elements of Lean? (RIEs, PW, waste elimination etc)	Search term 'Lean' on the Trust website reveals: 'Most of the projects that the Programme Office runs are done so using a particular project management methodology called "lean"' http://www.royalsurrey.nhs.uk/Patients-First (accessed 21/5/11)		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: tentative T2: Systemic (programme + Training, similar to BICS)	T1: Tentative T2: Systemic	
Other Notes			

Case 71

Royal West Sussex NHS Trust (merger see 'other notes)			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South East	SE	
Context (Internal)			
Physical Attributes, Structure			
Area Served	Chichester, Bognor Regis and the Manhood Peninsular to the south and for the population of the towns of Midhurst and Petworth to the north. The catchment area stretches as far west as Emsworth and up to Petersfield and to Littlehampton and Pulborough in the east. There is also a significant flow of patients from East Hampshire.		
Population/Location Characteristics	Although West Sussex is a relatively healthy and affluent area compared to the average in England, this overall social and economic profile conceals pockets of deprivation. Several of West Sussex's poorest wards lie within the Adur, Arun and Worthing districts and important health issues include heart disease, teenage pregnancy and substance misuse. The 2007 Index of Deprivation shows that those poorest areas are becoming relatively more deprived over time. In addition, whilst the area has one of the fittest populations in the country, this is balanced by there being double the national average of people over the age of 65 (24%) and those over 80 years (8%).		The population determines the demand of hospital services
Staff	2400/6000	Small/Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	450,000		
Trust Performance			
Foundation Trust Authorisation	T1 / T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Weak; 2007/08: Good; 2008/09: Fair		Performance not categorised
Use of Resources (CQC)	2006/07: Good; 2007/08: Fair; 2008/09: Weak		
Leadership			
Chief Executive (name	T1 / T2		

and background)	Andrew Liles, when Andrew leaves in December, he will hand over 2008 to Marianne Griffiths	Marianne Griffiths, Chief Executive	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)				
Notes on T1 AR (07-08)	The annual plan details a number of different schemes to further improve services by changing processes or implementing technological solutions…			
Notes on AR T2 (09-10)	The Trust came into being in April 2009 after the merger of Royal West Sussex and Worthing and Southlands Hospitals NHS Trusts. The merger offered significant benefits for the organisation, such as sharing the expertise of the clinical teams and helping to make services more sustainable for the future because of our combined catchment area. It also provides us with a better opportunity to become a Foundation Trust, which will give us more control to design, develop and invest in our services and develop a membership that represents our patients, community and staff. Our application to become a Foundation Trust will be a focus as we move into the next financial year.		Structural Change	
Process				

Service Improvement Approach	T1: 'Lean Thinking Programme'. For projects see p.25 annual plan; KT&T consultants. The annual Plan states as obj for 08/09 to realise the benefits of lean thinking prog. Key staff throughout the Trust were trained in the process of Lean Management in the autumn of 2007 T2: The Trust has set up an 'Ideas Factory' to make the most of the experience and innovation of the organisation's staff…The Ideas Factory is held in each of our three hospitals every three months, is chaired by the Chief Executive and staff attend to share their ideas. (p.15) T2: Quoted in the Boards papers August 2009: 'Ms Hole said that the Productive Ward programme had made a significant impact on the way staff viewed the layout and systems in place on wards, particularly in the use of space. She said that evidence of resource savings had been demonstrated in terms of use of time, a reduction in sickness absence, and an increase in direct care time by up to 19%. She said that the learning from the programme was communicated via the monthly Productive Ward Forum and newsletter and added that other departments, including therapies and housekeeping, were in the process of rolling out Productive Ward and LEAN principles in their areas as a result of its success in ward areas	T1: Programme T2: PW	Clear identification of a programme approach to lean implementation accompanied with training for 'key' staff. During T2 Lean implementation is more in the form of PW with no further mention of the specific 'lean thinking programme' identified in T1.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: All wards across the Trust have been taking part in the Productive Ward initiative		
Interpretation of Lean implementation	T1: Programme T2: PW only	T1: Programme T2: PW only	
Other Notes	The Trust was created on 1 April 2009 by a merger of Royal West Sussex NHS Trust, which managed St Richard's Hospital, and Worthing and Southlands Hospitals NHS Trust.		

Case 72

Surrey and Sussex Healthcare NHS Trust				
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	North-west Sussex and east Surrey, including the major towns of Crawley, Reigate and Redhill.				
Population/Location Characteristics	Its proximity to the M25 and M23 motorways and Gatwick airport means that it also treats many people from outside the area and from overseas.			Airport	The population determines the demand of hospital services
Staff	2700			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Fair	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Gail Wannell, appointed November 2006	Michael Wilson, Interim Chief Executive October 2010		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	'commitment and hard work have transformed the Trust's fortunes from being one of the weakest Trusts in the country just a few years ago to one that we confidently expect will gain a fair rating in our 2007/08...At the heart of transforming the way we do things in A & E has been improving patient flow throughout the hospital. Changing the way patients are managed and moved through the hospital together with building relationships with our primary and social care providers have been key. Since early February we have been ranked as one of the top performing A & E Trusts in the country, meeting and exceeding the national standard of seeing, treating and admitting or discharging 98% of patients within four hours.' (AR0708:3)	Success, recovery	The trust has recently recovered from a period of very poor performance.
Notes on AR T2 (09-10)	We have continued to improve our financial performance. This year we made an £8m surplus	Successful performance	Continuation of successful performance
Process			
Service Improvement Approach	T1: The need to improve performance and balance the finances has been the focus of a two year turnaround programme that began with a complete restructure of the organisation from top to bottom, with a reformed Trust board, new clinical directors and strengthened nursing leadership. T2: In 2009/10 we were one of only three Trusts to be selected to take part in both Acute Stroke and Transient Ischaemic Attack (TIA) national improvement projects as part of the NHS Stroke Improvement Programme (SIP). T2: We have put in place a range of actions within a programme named "better, faster, safer" which sees detailed action plans for all Trust Directorates aimed at improving the flow of patients through and out of the hospital. This includes the implementation of a consistent process for "expected date of discharge" where as soon as patients are admitted planning begins for their discharge, ensuring greater coordination within the hospital and with community services who will receive patients.	T1: Restructure T2: national projects	T1: the organisation has restructured in a bid to improve performance T2: The AR mentions projects that are led nationally and although they probably incorporate Lean methods these are not lead by the organisation itself
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: lean wards' and 'lean style processes' identified in website search T2: objective to deliver continuous improvements to all areas		Lean style' processes again hints that the organisation is using Lean principles but not explicitly.
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	

Case 73

The Medway NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South East			SE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Medway and Swale				
Population/Location Characteristics	Medway and Swale have several areas of social deprivation and therefore healthcare needs are higher than in other parts of Kent				The population determines the demand of hospital services
Staff	3500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Fair	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Andrew Horne appointed 2002	Andrew Horne appointed 2002		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Achieving foundation trust status was, of course, only one of many achievements over the year. Significant progress was made in reducing waiting times, new services to improve the patient experience were launched, national awards were won and plans were taken forward to improve our buildings and estate.			Successful performance	No issues reported

Notes on AR T2 (09-10)	CE and Medical Director had 'stepped down' this year…At the start of 2010, the Care Quality Commission asked the Trust for further reassurances in meeting some of its standards during its new annual process of registering healthcare providers and accordingly applied some conditions to the registration. The Trust was asked to improve the levels of staff training for safeguarding adults and children – an area where the Trust had declared non-compliance because it realised this needed to improve. The Commission also asked that the process for logging incidents was speeded up to ensure lessons were learnt more quickly. A robust process was already embedded to spread lessons learnt from incidents across the entire organisation and the Trust committed to speeding up the incident reporting process by the end of March, which was achieved. This has provided more timely reports on the areas we need to address, further improving the care and experience our patients receive. The Trust is committed to addressing the conditions of its registration within the agreed timeframe and is well advanced in achieving this… During 2009/10, the Board reviewed its strategic objectives and in May 2010, it agreed a new strategy for 2010 – 2013 (p.10)	Crisis	Intervention by the CQC has led to the 'stepping down' Chief Executive and the Medical Director
Process			

Service Improvement Approach	T1: productive ward; pilots began with showcase wards july 2008 T2: **Productive Operating Theatre** Medway Maritime Hospital was one of just five hospitals in the country last year to test a new initiative designed to improve safety and efficiency in NHS operating theatres. Led by the NHS Institute for Innovation and Improvement, the Productive Operating Theatre aims to improve standards of care for patients coming in for surgery by building close-working teams and improving the day-to-day running of the operating theatre. The Productive Operating Theatre is now being rolled out in all NHS operating theatres in England (p.12) T2: The Enhancing Quality Programme, launched in January 2010, is a project led by the South East Coast Strategic Health Authority and the Trust has started to participate in this. The work within the programme will involve importing good practice from other trusts, as well as introducing appropriate patient care measures on which data will be gathered and assessed to see if the standards for care are being met. This will be monitored internally through the Quality and Safety Committee which meets every two months. We will concentrate on five clinical pathways including: community acquired pneumonia, elective hip replacement, elective knee replacement, acute myocardial infarction (heart attack) and heart failure. (p.55)	T1: PW T2: PW	Productive wards are identified in T1 and productive theatres in T2. No other reference to Lean methodology is identified.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Wards T2: Theatres		
Interpretation of Lean implementation	T1: PW only T2: PW only	T1: PW only T2: PW only	
Other Notes			

South West

Case 74

Dorset County Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Weymouth and Portland, West Dorset, North Dorset and Purbeck.				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	210,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	June 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Jan Bergman	Jean O'Callaghan, Jean is a nurse by background and has extensive experience in managing change		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	Our record in delivering affordable and timely clinical care in 2007/08 stands us in good stead. We have achieved all our performance targets and in some cases exceeded them…The Trust has placed great emphasis on 'performance managing' the achievement of improved ratings and the quest for more effective delivery outcomes…For the first time in many years, the Trust achieved a small surplus of £0.7m but I am particularly proud to report that the feedback received from our patients has improved. The Trust was reported in the Times as being the 21st best hospital in the country, as viewed by its patients through the recent independent patient survey	Success, recovery	The trust has had a successful year in terms of performance and has achieved a surplus for the first time in many years
Notes on AR T2 (09-10)	AR Press Release: [crisis] "It is no secret that it has been a tough year for the hospital, but there is also much to be positive about and I have every confidence that with the new permanent executive appointments we now have the skills and experience at Board level to take this organisation forward and build on the high quality services we provide for our patients. "I would like to thank all the staff within the organisation for their forbearance during this difficult time and their ongoing commitment and dedication to providing the very best care we can for our patients. The Board is extremely grateful for their continued support. "There has been much talk and speculation about the cost of the interim directors we employed to lead our recovery programme. The figures are presented openly in our annual report but do need to be put into context. "We needed to recruit a strong team following the departure of key members of the Board. We were facing a £7.4million deficit and had no credible recovery plan in place. In that position it would have been extremely difficult to recruit a permanent Chief Executive or Finance Director, so we took the decision to appoint a team of experienced interims with proven track records in turning around organisations in financial difficulties. This team included an interim Chief Executive, Finance Director, Turnaround Director and Director of Human Resources. Together these appointments cost the Trust £647,000 AR0910 opening statement: **The financial difficulties at Dorset County have raised many questions as to how this situation could have occurred. The report by the Audit Committee goes a long way to explain this and on behalf of the Board of Directors (Board) I wish to formally apologise to our Governors, staff and other stakeholders for the significant weaknesses in the system of internal control, namely workforce planning, management capacity and the failure to deliver sufficient cost savings.**	Crisis	Severe financial crisis, at least 4 new interim directors in place

Process			
Service Improvement Approach	T1: In the next three years the financial focus will be on achieving a 10% reduction in the Trust's cost base largely achieved through a fundamental redesign of the Trust's business processes. This work is currently underway. (p.9)		
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Productive theatres		
Content			
Areas identified as under transformation	T2: implementing productive theatre		
Interpretation of Lean implementation	T1: No Lean T2: PW only	T1: No Lean T2: PW only	
Other Notes			

Case 75

Gloucester Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Cheltenham General, Delancey and Gloucestershire Royal hospitals				
Population/Location Characteristics					The population determines the demand of hospital services
Staff				Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1		T2	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	July 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1		T2		
	Dr Frank Harsent, appointed may 1st 2008; Previous to this, he held a position as Chief Executive of the Salisbury Hospital NHS Foundation Trust since 2001 and led it to Foundation status in 2006		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	As the year began we recognised that achieving the government target of 85% of patients waiting no longer than 18 weeks from referral to treatment would be difficult to achieve. Plans were, however, in hand to be more efficient...no-one could have foreseen at that point that the devastating floods in Gloucestershire in July 2007 would have made the achievement of the target so difficult. The floods, which affected patients and staff alike, led to 10,000 cancelled episodes of care and eleven weeks of interrupted water supply. It is, therefore, a tribute to everyone that we met the target with just over 85% of our patients waiting eighteen weeks from referral to treatment… The Trust delivered an exceptionally strong all-round performance in 2007/08… The Trust is in a strong financial position.	Successful performance	The trust performed successfully despite severe flooding that drastically affected the hospitals operations.
Notes on AR T2 (09-10)	This period has been a difficult one for the Trust as it has sought to meet performance targets and achieve savings. It is a matter of great regret that we were found in serious breach of our authorisation by Monitor midway through the year, related primarily to a failure in governance, and subsequently we have been on monthly reporting. The Trust has been under monthly review for a number of performance issues which have included the A & E four hour wait, thrombolysis and finance. As the year ends, however, performance is improving thanks to the commitment of staff and the introduction of new systems.	Crisis	In breach of authorisation for performance and finance
Process			

Service Improvement Approach	T1: For existing services the challenge will be to redesign systems and processes to find more efficient ways of delivering high quality services. This will require investment of time from front line staff and in methodologies and skills to support and embed change. The most challenging of these will be project UTOPIA which aims to redesign the unscheduled care pathway, securing early and ongoing input of senior clinicians, leading to improved quality of care and reduced length of stay. Improving the overall capacity of the organisation to deliver the strategic objectives will be reflected in an enhanced organisational development programme. T2: The introduction of using the technique of Rapid Improvement Events in 2008/09 has continued and been enhanced through the development of internal facilitators to run these exercises without the need for external assistance. T2: The major change project launched in 2009 was UTOPIA which has a two year timeline and started in August 2009. The aim is a redesign of the emergency care pathway to provide a consistent seven day service. The first six months concentrated on the front end of the pathway. One third of all patients sent in for admissions by GPs are assessed, diagnosed and treated in A & E and then sent home. For those patients who are admitted 40% are treated and discharged from our unscheduled care units without the need to move to another ward. The focus in 2010/11 will be on the speciality wards to achieve seven day using specialist staff.	T1: Tentative T2: Few projects	T1: Early description of a redesign project T2: The AR reveals the use of RIEs as a vehicle for change
Elements of Lean? (RIEs, PW, waste elimination etc)	RIEs		
Content			
Areas identified as under transformation	The last year has seen events in the Vascular Laboratory service, Discharge Planning and the Elective Surgical pathway.		
Interpretation of Lean implementation	T1: Tentative T2: Few projects	T1: Tentative T2: Few projects	
Other Notes			

Case 76

North Bristol NHS Trust				
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Frenchay and Southmead Hospitals and within the local community of Bristol and South Gloucestershire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	9000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Fair	Weak		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Sonia Mills, appointed May 2003	Ruth Brunt, the Trust's Director of Operations, has stepped up to the role of Chief Executive after seven years at the Trust as Director of Operations and Director of Nursing (March 2009)		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Many of the hospital buildings currently in use in Bristol are in very poor condition, are badly configured and are not acceptable for the delivery of good quality patient care in the 21st century			Performance issues	Inferring performance issues due to the very poor condition of buildings

Notes on AR T2 (09-10)	North Bristol NHS Trust (NBT) is a centre of excellence in the South West region in a number of fields, as well as one of the largest hospital trusts in the country…We were applauded for the standard of our patient safety in the most recent Dr Foster Hospital Guide, receiving the maximum five star rating, making us (according to this guide) the safest NHS trust in the South West. 'In March, Sonia Mills, who led the organisation for seven years, left the Trust to take up a new opportunity as Chief Executive at NHS Oxfordshire. During her time at NBT, Sonia turned this organisation around from an overall position of weakness to one of strength. We wish her well for the future and would like to thank her for all her hard work in making NBT the strong, viable organisation it is today.' (p.4)	Successful performance	No issues highlighted.
Process			
Service Improvement Approach	T1: Our five objectives, known throughout the Trust as the "Big 5," were to: 1. Relentlessly improve patient experience and safety; 2. Progress significantly towards no wait/no delays; 3. Make progress towards the new hospital 4. Become a great place to work; 5. Achieve fitness for Foundation Trust status T2: Continues Big 5 objectives + 'Our transformation programme, Building Our Future, sets out how we, in partnership with the local heath community, are planning to redesign our services, ensuring they are as productive and efficient as possible, whilst at the same time offering the best care for our patients. T2: Work now begins in earnest to redesign the models of care needed for the opening of the new hospital. These changes will be delivered by the Building our Future programme which consists of just over 40 major projects that will help us transform the way we deliver care for patients.	T1: Few projects	A 'few projects' is approach is inferred from the description as there is a resonance with Lean principles
principles			
Content			

Areas identified as under transformation	T1: Some lean activity linked to patient safety (website) T2: Achieve redesign of two pathways per directorate, using lean principles and bearing in mind the need to add value to patient experience…Embed PW systematically (Source: Big5 doc April 2010 located through website search 'lean') T2: Lean Thinking course on 'management skills programme' webpage and 'Managing Change' course (http://www.nbt.nhs.uk/education__research/e_learning.aspx)	T1: Few projects T2: Few projects	Confirmation of the use of Lean methodology from the trust website
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes			

Case 77

Northern Devon Healthcare NHS Trust			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South West	SW	
Context (Internal)			
Physical Attributes, Structure			
Area Served	North Devon and neighbouring towns and villages in North East Cornwall and Mid Devon		
Population/Location Characteristics	North Devon is a popular retirement area. More than 20% of the population are over 65 years old and nearly 10% are over 75 (UK averages are 16% and 7.5%, respectively). Earnings are 15% below the UK average and there are significant housing problems for working families due to the affordability gap created by the arrival of relatively affluent retirees and by the number of second homes.	Elderly population	The population determines the demand of hospital services
Staff	2254	Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	165,000		
Trust Performance			
Foundation Trust Authorisation	T1 / T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Weak; 2007/08: Good; 2008/09: Fair		Performance not categorised
Use of Resources (CQC)	2006/07: Weak; 2007/08: Fair; 2008/09: Good		
Leadership			
Chief Executive (name and background)	T1: Jac Kelly; T2: Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)			
Notes on T1 AR (07-08)	This year has seen the Trust bounce back from two extremely testing years. We achieved financial balance in the year 07/08...The methodology for producing a service strategy required us to analyse every department in the Trust. Staff and patients were involved right from the beginning in telling us what challenges lay ahead for their service, what new technology we could use and what expectations patients had.	Success, recovery	The trust has 'bounced back' from two extremely testing years

Notes on AR T2 (09-10)	'For us, one of the highlights from 2009/10 is the way in which our services and standards of care are being recognised by the people who really matter – patients.'	Successful performance	No issues reported
Process			
Service Improvement Approach	T1: The methodology for producing a service strategy required us to analyse every department in the Trust. Staff and patients were involved right from the beginning in telling us what challenges lay ahead for their service, what new technology we could use and what expectations patients had. T1: Working to improve patient flows – IMPACT project; (p.24) T1: A 'Continuous Improvement Programme Manager' in place (p.45) T2: Patients and the public have been involved in several projects to make service improvements. These include projects to change the signage around the North Devon District Hospital, to make improvements for patients with sensory impairments, to improve administration in the outpatient department, and to upgrade the main foyer at North Devon District Hospital	T1: No Lean T2: No Lean	There is an echo of the use of Lean methodology but no explicit reference to Lean
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 78

Plymouth Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Plymouth, East Cornwall and South West Devon				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6387			Large trust	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	450,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Fair	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Paul Roberts, appointed 2000	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	This year has been one of celebration and challenge, in equal measure …This Trust has turned itself round dramatically in a short time – from a Trust that was failing both in terms of meeting basic standards and financially, into an organisation that is now leading the way in many fields and striving for Foundation Trust status			Success, recovery	The trust has turned itself round 'dramatically'
Notes on AR T2 (09-10)	We are amongst the best performers nationally… It is a truism to say that our staff are our most important asset, but without them and their commitment there is no hospital. We don't say "thank you" to them often enough, as a disappointing staff survey showed (p.3) FT application withdrawn, new application would hope to reach FT status in 2011 (p.5)			Successful performance	No issues
Process					

Service Improvement Approach	T1: The Trust has a service improvement programme known as the Vanguard Pathway Programme. The Vanguard Pathway Programme office has successfully overseen the integrated approach to service redesign, led by the Trust's Service and Clinical Systems Improvement team and the delivery of efficiencies which have enabled the Trust to meet its financial targets over the last three years… The core team consists of both clinicians and non clinical change leads who work together to provide a range of improvement expertise… and delivering a Transfer of Improvement Skill Programme which is supported by Dr Kate Silvester, the National OSPREY Lead… The operating policies developed by the Programme Office and their associated success stories have been shared with and adopted widely by our colleagues in primary and secondary care throughout the South West as part of a desire to work in a collaborative way across the whole health and well being community. (p.32) T2: No mention of Vanguard pathway. Patient Care Programme but no mention of Lean	T1: Programme T2: No Lean	Vanguard and Osprey programme draw upon systems thinking and Lean thinking No mention of Lean or Vanguard in T2.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Organisation wide		
Interpretation of Lean implementation	T1: Programme T2: No Lean	T1: Programme T2: No Lean	
Other Notes			

Case 79

Poole Hospital NHS Trust			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South West	SW	
Context (Internal)			
Physical Attributes, Structure			
Area Served	East Dorset		
Population/Location Characteristics	Poole Hospital is located on the South Coast, close to stunning areas of natural beauty, such as the Jurassic Coast and Isle of Purbeck, and golden beaches of Poole and Bournemouth.		The population determines the demand of hospital services
Staff	4300	Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	700,000		
Trust Performance			
Foundation Trust Authorisation	T1: 1st November 2007 / T2	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Good / 2007/08 / 2008/09: Excellent		Performance not categorised
Use of Resources (CQC)	2006/07: Good / 2007/08 / 2008/09: Excellent		
Leadership			
Chief Executive (name and background)	T1: Sue Sutherland / T2: Chris Brown following retirement of Sue Sutherland	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)			

Notes on T1 AR (07-08)	Our operational performance for the period was also very strong. We achieved all but two of our national targets and this was delivered against a background of extreme pressure on clinical services. During the past five months, the hospital has hardly ever been out of escalation but our staff responded to this situation with their trademark professionalism and commitment. It is a tribute to all staff working at Poole Hospital that we have performed so well whilst under such continuous pressure. I would like to take this opportunity to record my thanks to the staff of Poole Hospital for the enormous effort made by all. I am pleased to report Poole Hospital also ended its first five months as an NHS Foundation Trust in good financial health. Our end of year balance was excellent, with a surplus that was in excess of expectation. (p.5)	Successful Performance	The trust performed well during T1.
Notes on AR T2 (09-10)	'Poole Hospital NHS Foundation Trust is an acute general hospital. It was named the safest hospital in the UK in the 2009 CHKS Patient Safety Awards, and the services the hospital provides have been rated as 'excellent' by the Care Quality Commission.' (Front page of website wwww.poole.nhs.ukaccessed 3/11/10)	Successful Performance	Evidence of another successful performance
Process			
Service Improvement Approach	T1: Service Improvement and Redesign programme led by the Director of Operations. (p.8)	T1: No Lean	T1: Sounds like lean but no explicit mention of Lean methodology or elaboration of the redesign programme
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: improvement work in day theatres (p.8) T1: Work is under way to bring about improvement and reduce pressure on beds. We have implemented a delayed discharge review and a rapid redesign programme, to improve current performance and significantly reduce delayed discharges (p.9)	T1: No Lean	No explicit reference to Lean
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 80

Royal Bournemouth & Christchurch Hosp NHS FT					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Bournemouth, Christchurch, East Dorset and part of the New Forest				
Population/Location Characteristics	Population rises during summer months			Tourist	The population determines the demand of hospital services
Staff				Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	550,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	April 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	Tony Spotswood, appointed 2000. Has extensive experience of leading organisations through strategic change including service reconfiguration and merger.		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	There have been many successes during 2007/08 and I would like to begin this report by highlighting the performance of the Trust against the 18 week target…Rather than settle for the basic target levels, the Trust set itself stretch targets and I am delighted and proud to announce that it achieved 94% for its inpatient target and 97% for its outpatient target…At the end of 2007/08 the Trust had an operating surplus of £9.4m. The Healthcare Commission, which inspects all Trusts, has assessed our financial stewardship as excellent. (p.5)			Successful performance	A celebratory year

Notes on AR T2 (09-10)	I am delighted that we were recognised for our achievements in these areas by receiving the accolade of being named Acute Organisation of the Year by the Health Service Journal. The Care Quality Commission also awarded us a double Excellent rating in its Annual Health Check. We were one of only two Trusts in the country to receive full marks within the assessment…Over the next three years we need to continue to make efficiency savings. We believe strongly that we can do this by providing quality care that meets the needs of our local patients and by reducing waste and duplication… Our staff have been at the forefront of the drive for quality and efficiency. They have helped identify and lead areas for improvements and have been incredibly flexible in the way that they work. The goal is always to put our patients first.	Successful performance	A celebratory year
Process			
Service Improvement Approach	T1: Attitude to Lean as demonstrated by 'lean' search string on website: The trust is Increasingly thinking about the future of acute healthcare concentrates around the simple idea that "getting it right first time" makes hospital care quicker, cheaper, safer and more patient focused. There are a myriad of methods to achieving this, such as "lean thinking" or the Toyota approach, Sixth Sigma, Business Process Reengineering etc. All vary slightly but keep coming back to the need to review and improve our systems and processes for delivering care. With commissioning focusing on care pathways to deliver 18 weeks and unbundle services care pathways will feature heavily in the Trust's future work. T2: Through an internal programme - Protecting our Future, through better care, better value - we have already identified savings of £20m. A number of work streams were developed aimed at sustaining or improving quality which also delivered efficiencies…At a practical level this meant continuing to find ways of improving care and outcomes for patients. At the same time the organisation gained a greater understanding about where it could reduce waste or duplication. By delivering the quality and efficiency programme the Trust can continue to commit to a seven year, £65m capital programme for improving patient services. (p.29)	T1: Tentative T2: Few projects	T1: CLear evidence that the Trust is interested in these methods including Lean but no projects yet underway. T2: A few projects are listed and a website search of the term 'lean' identified that Lean methodology is being used in the trust.
Elements of Lean? (RIEs, PW, waste elimination etc)	Website search 'Lean' reveals Lean is being used in the trust, example of discharge project using Lean (performed 10/11/2010)	T2: Few projects	

Content			
Areas identified as under transformation	T2: Work streams for cost and quality improvement: Length of Stay - looked at ways to improve quality and timeliness of care by identifying and addressing unnecessary delays which extend patients' stay in hospital. A discharge project group piloted new ways of working including implementation of seven day discharge, increasing the frequency of ward rounds, involving patients and carers in the discharge process and improving the use of the discharge lounge. l Admin and Clerical (A&C) – examined ways of working through a series of workshops attended by staff from across all directorates. Lots of very good ideas were suggested and a number of these were taken forward. This included the expanded use of digital dictation, better ways to provide communication to staff without access to e-mail, and ways of providing a Trust wide A&C service. l Theatres - looked at more efficient ways of using theatres sessions. (p.29) Website search 'Lean' reveals Lean is being used in the trust, example of discharge project using Lean (performed 10/11/2010)	T2: Few projects	
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes			

Case 81

Royal Cornwall Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	400,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2		FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Weak	Weak		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1		T2		
	John Watkinson, Appointed 2007; formerly chief executive of Bromley Hospitals NHS Trust, an organisation in which he led the transformation from 1-star to 3-star status and is now well advanced in its application as a foundation Trust. Prior to Bromley, John had similar success in Sherwood Forest Hospitals Trust, which is now a foundation Trust, where again he led its transition from 1-star to 3-star status.		Peter Colclough, appointed October 2009	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	''Unrecognisable' - perhaps this single word, used by the Department of Health's support team to describe the Trust in January, best sums up a year of achievement in which we have seen exceptional turnaround.' (p.2). During the last 18 months the Trust has reversed poor performance of recent years, returning to financial balance, meeting national waiting time targets and, from April 2008, achieving full compliance against the core Standards for Better Health.	Success, recovery	The trust has successfully recovered from poor performance and financial deficit
Notes on AR T2 (09-10)	'Having joined the Royal Cornwall Hospitals Trust as interim chief executive in February last year, I was well aware that 2009/10 was going to be a testing year in which it would be critical to respond to the poor performance of previous years and crucially to the shortcomings identified by the Independent Review. It was a year that would define its future direction and its ability to deliver the scale of turnaround required…Our performance during 2009/10 has put us in good stead to face those future challenges and our 5-year strategic plan to deliver better, safer good value care is based on change and improvement that will make us a leaner, fitter organisation.	Performance issues	Despite the 'turnaround' described in T1 the new interim CE refers to 'poor performance of previous years'.
Process			
Service Improvement Approach	T1: The Healthcare Commission's report following its intervention work with the Trust was published in April 2008. It concluded that: "The Trust's board had recognised the full extent of the previous problems and was leading a process of organisational change to bring about improvements in the way services are delivered." (p.3)		
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Search string 'productive' on website reveals: A bid was recently submitted to the SHA for monies to carry out a pilot for the productive ward scheme.' T2: PW team appointed May 2009.	T1: Tentative T2: PW	T1: The trust had applied for monies for PW but had not implemented yet.
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: Tentative T2: PW only	T1: Tentative T2: PW only	
Other Notes			

Case 82

Royal Devon & Exeter NHS FT			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South West	SW	
Context (Internal)			
Physical Attributes, Structure			
Area Served	Exeter, East Devon and Mid Devon		
Population/Location Characteristics			The population determines the demand of hospital services
Staff	5000	Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000		
Trust Performance			
Foundation Trust Authorisation	T1: April 2004 / T2:	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Good / 2007/08: Excellent / 2008/09: Good		Performance not categorised
Use of Resources (CQC)	2006/07: Excellent / 2007/08: Excellent / 2008/09: Excellent		
Leadership			
Chief Executive (name and background)	T1: Mrs Angela Pedder, OBE, appointed 1996 / T2: Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)			
Notes on T1 AR (07-08)	There have been so many successes and significant improvements in the services we deliver to patients during 2007/08 that it has been difficult to choose the highlights…Sound financial management is at the heart of the Trust's continued ability to sustain, develop and enhance the range and quality of our services. Once again our staff have exceeded expectations and generated a surplus of £8.3 million, which will ensure we are able to make further investment in service improvement next year and beyond. This continued success is achieved by the efforts of all staff at every level to make best use of resources, reduce waste and duplication, and seize every opportunity to ensure good financial management and service improvement is explored.	Successful performance	No issues reported

Notes on AR T2 (09-10)	We are proud of what we have been able to achieve over the course of the year not least because this has been a difficult and challenging time. In particular over the winter we faced significant rises in emergency attendances and admissions, a strong growth in demand for our elective services and outbreaks of diarrhoea and vomiting illnesses, brought into hospital, which closed wards. In common with many Foundation Trusts across the country, these factors created enormous pressures in managing the admission and discharge of patients but our staff coped extremely well. Positive changes have been made to the way in which the NHS and social services work together across Devon to manage these issues. More remains to be done to ensure that this situation is further eased…The squeeze on public finances does offer an opportunity, however, to rethink how we deliver care, not just within the hospital but across Devon, in a way that best meets the needs of our patients. Our staff will be a crucial resource in identifying new ways of working and doing things which will benefit patients and reduce costs. Our staff have a proud track record of success in developing new ways of doing things and we are confident that with their innovation and creativity we can continue to deliver top quality patient care. We are well placed as a Foundation Trust to prepare for and succeed in the changed economic environment and to continue to provide an excellent service for the communities that we serve. (p.6-7)	Successful performance	No issues reported
Process			
Service Improvement Approach	T1: productive ward, archived paper from Trust website identifies costs of £45k to support the release of staff and rapid change initiatives T2: Over the next year, the Trust will embark on a range of activities to ensure that our services are being delivered as efficiently as possible by: _ Generating new ideas to reduce costs without compromising the quality of patient care _ Working with our partner organisations in innovative ways to meet the needs of patients by offering care closer to home _ Reducing waste and duplication	T1: Few projects T2: Few projects	T1: PW identified along with the use of Lean to redesign a lab. ARchived document described under ‘content’ confirms the continued use of Lean in relation to a ‘few projects’
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Lean work since 2006. eg for rebuild of 'state of art' lab; . Visual boards and other tools being used.		
Content			

Areas identified as under transformation	T2: The RD&E has a track record for innovation as a pilot site for national NHS initiatives. Frontline staff played a key role in testing 'The Productive Operating Theatre' programme before its national launch in 2009. Leadership, team working, patient safety and theatres efficiency are key elements of Productive Theatre to improve patient experience T2: archived document relating to Minutes from Board Meeting dated Oct 2009 suggesting the use of Lean principles in pharmaceuticals (accessed 10/11/10)		
Interpretation of Lean implementation	T1: Few Projects T2: Few Projects	T1: Few Projects T2: Few Projects	
Other Notes			

Case 83

Royal United Hospital NHS Trust Bath			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South West	SW	
Context (Internal)			
Physical Attributes, Structure			
Area Served	Bath, and the surrounding towns and villages in North East Somerset and Western Wiltshire.		
Population/Location Characteristics	higher than average proportion of people who are aged 65 or over; proportion in the 85+ age bracket is between 2.2% and 2.4% compared with 1.9% nationally. It is projected that this will continue as a consequence of higher than average life expectancy and some movement of older people into the area for retirement. The trust's unplanned admissions show a bias towards cardiac and respiratory admissions. There are also high levels of trauma and the volume of cancer (oncology) care is also increasing...levels of health are fairly high with good healthy lifestyle choices being made although there are some pockets of greater deprivation with associated general health issues. For example, within the city of Bath there are variations in life expectancy of around five years between different areas. Health inequality is therefore an issue for the local primary care trust.	Elderly population	The population determines the demand of hospital services
Staff	3500	Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000		
Trust Performance			
Foundation Trust Authorisation	T1 / T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Weak; 2007/08: Good; 2008/09: Good		Performance not categorised
Use of Resources (CQC)	2006/07: Weak; 2007/08: Fair; 2008/09: Good		
Leadership			
Chief Executive (name and background)	T1: James Scott, appointed 2007; T2: Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)			

Notes on T1 AR (07-08)	During its first 14 years, the trust was unable to achieve financial balance without external support. However, in 2006/07 following a tremendous team effort at all levels throughout the hospital, the trust was 'in the black'. This year, again, I am delighted to report that the trust has achieved financial balance…there are two areas where we need to improve – in emergency access and in booking of appointments. Whilst delivery of the emergency access standard of four hours is partially determined by the number of patients who remain in a hospital bed after their medical care has been completed because of delays to their discharge or transfer to a nursing or care home, there is also much to do within the hospital. Some progress has been made towards the end of the financial year and the process improvements we have put in place this year will be enhanced and strengthened in 2008/09.	Success, recovery	The trust has recovered from 14 years of financial deficit.
Notes on AR T2 (09-10)	The Royal United Hospital Bath NHS Trust (RUH) met its objective of working within available financial resources for 2009/10. The year was the fourth consecutive one in which we have generated surpluses of income over expenditure. In 2009, the RUH published a Strategic Direction for the next four years. This document makes clear our ambition: To be a national exemplar for the NHS through dedicated staff, working together, to give every patient excellent care (Quality Account, 2010:10)	Successful performance	No issues reported
Process			
Service Improvement Approach	T1: pilot 'productive ward' scheme T1: 'A major thrust of work during the last year has been the RUH 2010 Change Programme which focused on improving core patient care processes within the hospital by reducing waste and delivering a better experience for our patients and our staff. Projects included reviewing and revising the ways in which patients are cared for following admission – either for planned operations or from A&E – with a view to allowing patients to go home as soon as they are ready to do so.' (p.6)	T1: Tentative	Pilot PW
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Echo of Lean		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: Tentative T2: PW only	T1: Tentative T2: PW only	
Other Notes			

Case 84

Salisbury NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Wiltshire, Dorset and Hampshire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4100			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	200,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Frank Harsent	Peter Hill – interim CE			No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	As Chairman of Salisbury NHS Foundation Trust I am glad to report that we have had a successful year with a number of significant achievements and developments. These not only highlight the leadership provided by the senior operational management team within the Trust, but also the commitment and professionalism of our staff (AR0708:5)			Successful performance	No reported issues
Notes on AR T2 (09-10)	This year we have been working closely with our own staff and other organisations on the redesign of services, which will ensure that patients are treated at the right time and in the most appropriate location for them.			Service improvement	A focus on service improvement
Process					

Service Improvement Approach	T1: Planned surgery, medical emergency admissions and pathology were the focus of a sustained programme of service improvement, with staff across a wide range of roles and responsibilities working together to improve systems in key areas of their patient's journey. Staff suggestions resulted in major changes to processes, new working practices, better use of existing clinical areas and the relocation of some facilities. These changes have significantly improved the patient's experience of hospital care in these areas. T2: Right Treatment, Right Time, Right Place programme, which is a clinically led programme to improve patient pathways, and other initiatives that aim to streamline care for both planned and emergency patients and provide an efficient and effective service that improves patients' experiences of hospital care.	T1: Tentative T2: Few projects	T1: No specific mention of Lean but the extract suggests the trust is experimenting with some Lean 'style' methods T2: The described program sounds like it might be based on Lean but it is not explicitly named as a methodology. A few LEan projecst are identified though (see 'content')
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: Bowel Cancer Services, Paediatrics, Stroke Care and Rheumatology all carried out major service improvement workshops and this programme now forms a key part in the Trust's organisational development through Striving for Excellence, with staff fully involved in its progress. T2: RIE in Orthopeadics and pathology (during 2010) identified in website search		
Interpretation of Lean implementation	T1: Tentative T2 Few projects	T1: Tentative T2 Few projects	
Other Notes			

Case 85

South Devon Healthcare NHS FT					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	South Devon				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3700			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st March 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Paula Vasco-Knight (August 2008)	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	Incumbent Chairman speaking on behalf of retired chairman: 'Mr Hudson placed on record his appreciation of all the support he had received from colleagues past and present, and the high level of community support that he and the Trust had benefited from. He also paid special tribute to the Trust's long-serving Chief Executive Tony Parr and attributed the Trust's success to its organisational stability over many years, the energy within the organisation, the culture of partnership and co-operative working and the constant striving to innovate and to improve the quality of its services as well as the Trust's hugely supportive community…The year has therefore seen an unusual degree of change in Trust leadership, including the appointment of a new Director of Finance, Paul Dodd, who joined in March 2008. The process was completed with the appointment of Paula Vasco-Knight, Deputy Chief Executive of Plymouth Hospitals NHS Trust, as the Trust's new Chief Executive. She will take up her post in August 2008. (p.56) **Lots of change at the top** Lots of references to innovation in the Executives report	Successful performance	Although there has been a period of change of executives this follows a stable history and the trust is considered to be a high performing and stable trust.
Notes on AR T2 (09-10)	'one of the **top three** hospitals nationally for making good use of hospital beds by not keeping patients in hospital for unnecessary, long lengths of time' (AR08-09:9) 'I am in the fortunate position of being the Chief Executive of a Trust that has achieved significant improvements in the quality of patient care that we provide. The Trust has achieved significant improvements in quality. Over the last year, we have been praised from the Independent Inspectorate, the Healthcare Commission, on being the first Foundation Trust to be found fully compliant with the Hygiene Code. Over the next twelve months, we will continue to focus on quality improvements for our patients. In partnership with our patients and the people of Torbay we will work to understand what quality means for patients and aim to develop and embed systems to deliver real quality improvements on the issues that matter to them. Working with our staff, we will seek to embed a culture of continuous quality improvement throughout the organisation. (p.10)	Successful performance	No issues reported
Process			

Service Improvement Approach	T1: Corporate Strategy 2006-2012 identifies 'Lean system re-design' to improve productivity & efficiency of workforce; removal of waste and non-value added activities, leads directly to a more highly productive and less costly workforce. The workforce intelligence systems outlined above, will enable effective use to be made of all natural turnover to ensure that financial targets can be met through workforce change T2: We are working in concert with clinical leads to improve the efficacy of stock control by adopting the 'Productive Ward' initiative. This entails colour-coding clinical consumables and storing them in a uniform way for staff to find easily in any ward or theatre environment, even where they are not familiar.	T1: Few projects	Inference that a few Lean projects are taking place during T1 T2: PW only, no mention of other Lean work
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Wards		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: Few projects T2: PW	T1: Few projects T2: PW	
Other Notes			

Case 86

Taunton & Somerset NHS Trust			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South West	SW	
Context (Internal)			
Physical Attributes, Structure			
Area Served	major catchment area is western Somerset it also received significant levels of referrals from South and North Somerset and parts of East Devon		
Population/Location Characteristics	The majority of the Trust's catchment population lives within the more deprived, less healthy areas of Somerset. This suggests that patients with more complex treatment needs may be more likely to be referred to Musgrove Park, than to the other DGH's in Somerset. The majority of the catchment population lives in areas where the Health and Social Needs Assessment (HSNA) indicator 'Standardised Limiting Long-term Illness aged <75 ratio' and, in the former Somerset Coast PCT area amongst the older age group the '% of Households with Limiting Long-term Illness', are higher than the average for Somerset. Hence the importance of the Trust's involvement with Somerset PCT in planning services for people with long term conditions	Deprived area	The population determines the demand of hospital services
Staff	3600	Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	340,000		
Trust Performance			
Foundation Trust Authorisation	T1: 1st December 2007 / T2:	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Fair / 2007/08: Good / 2008/09: Good		Performance not categorised
Use of Resources (CQC)	2006/07: Good / 2007/08: Excellent / 2008/09: Excellent		
Leadership			
Chief Executive (name and background)	T1: Jo Cubbon, appointed 1st April 2008 / T2: Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)			

Notes on T1 AR (07-08)	It has been a challenging but successful year at Musgrove Park Hospital…The Trust performed exceptionally well in the key operational targets during 2007/08. The Trust was named as "Medium Sized Trust of the Year" by independent health analyst Dr Foster. Dr Foster said that the Trust demonstrated a consistently high level of performance that led to this award. We also became an early achiever of treating our patients within 18 weeks. In December 2007, over 90% of all patients waited less than 18 weeks from when they were referred by their GP to when their treatment started. Healthcare Associated Infections have reduced significantly…Sound financial management has placed the Trust in a strong position. The Trust has exceeded its financial targets including the achievement of a surplus of £6.4million…The Trust's vision is "To provide a high level of service and quality previously unknown in this country" (p.4)	Successful performance	A celebratory year
Notes on AR T2 (09-10)	There is a wide range of measures and indicators that the Trust uses to provide assurance about performance. We have robust internal performance reviews and a comprehensive internal audit programme…the Trust has experienced an extended and challenging norovirus outbreak which has, at its worst, affected 14 wards. While not alone in this among hospitals and care homes across the region, the implications have been difficult to manage with capacity stretched and some non-urgent operations postponed. The national out-patient survey carried out by PICKER showed that the Trust had improved in areas such as offering choice to patients, ensuring privacy and copying correspondence to patients. However, there had been a deterioration in patients' views on the information they were given and the number of times that an appointment was changed…Our guiding principles for the future remain clear: ensure patient safety is absolutely prioritised, improve the patient experience in every way we can and cut out waste to make more of what we do. (p.8-9)	Performance issues	The trust has experienced a challenging year with an outbreak of norovirus that has had a significant impact on their operations and performance.
Process			

Service Improvement Approach	T1: The delivery of a £5 million savings plan and improvements in productivity are part of the Trust's service improvement programme. T2: The Trust plans to deliver a cost improvement plan of £11.7m in 2010/11. The development of each phase of the surgical re-build programme will be dependent on the success of the savings programme. The scale of change required and its impact on the workforce are risks which are being managed through the programme as part of a wider organisational development. The Trust, recognising the importance of organisational development, has appointed a director of organisational development and workforce, who has led a strategy entitled, 'Passionate about People', which aims to develop a flexible workforce, support staff through change and increase management capability. T2: stated strategic aim: To create a culture which empowers and supports staff to lead (1 of 6, p.20) T2: The clinical pathway transformation programme of work has provided opportunities across the Trust to redesign whole care pathways, largely managed by clinical teams in collaboration with NHS Somerset	T1: No Lean T2: Few projects	T1: No identification of Lean methodology T2: The trust highlights the clinical pathway redesign programme which again sounds like Lean. Lean projects are identified via a website search using the term 'Lean'
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Work has started on a variety of projects to cut out waste and do everything we can to ensure high quality and low cost. One of these developments will be to transform the way we manage patient administration in the hospital to dramatically improve patient experience whilst also reducing costs by taking out duplication, bringing together staff to maximise efficiency and adopting streamlined processes.		
Content			
Areas identified as under transformation	Website search identifies the use of Lean methodology in Cytology and Histology		
Interpretation of Lean implementation	T1: No Lean T2: Few projects	T1: No Lean T2: Few projects	
Other Notes			

Case 87

The Great Western Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Swindon and Wiltshire and to parts of Gloucestershire, Oxfordshire and West Berkshire				
Population/Location Characteristics	The general health of the population we serve is good, but particular health inequalities remain in our area				The population determines the demand of hospital services
Staff	3300			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st December 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Lyn Hill-Tout	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	2007/2008 was a year of substantial progress in financial performance, but more importantly in clinical performance…The Trust has been transformed and has a solid foundation upon which it can pursue its aim to ensure that "excellence is standard". The improvements which have been delivered are tangible and can be measured. We ended the financial year with a surplus which has been reinvested in clinical services. In addition, those clinical services have become more efficient and this has benefited our patients. For example, new patients wait less time to be seen.			Success, recovery	Claim that the trust has been 'transformed' suggest a recovery from a period of poor performance and financial stability.

Notes on AR T2 (09-10)	The Trust has established six work streams (that will deliver the six strategic objectives) each of these identifies work that must be done and are identified in the diagram below. The milestones and targets against which Trust performance can be measured are in the process of being developed so that performance can be monitored and corrective action taken when necessary. The strategy has been developed with the national drivers in mind, in particular it is aligned with the national Quality, Innovation, Productivity and Prevention (QIPP) agenda, and whilst wholly owned by the organisation will be shaped and influenced by a range of external bodies over the five years (AR0910:10)	Service improvement	A focus on service improvement/strategy
Process			
Service Improvement Approach	T2: The roll out of the Productive Ward initiative which started in 2008/09 has continued. All wards have completed at least two of the modules and already the benefits for patients and staff are clear. Since we started the initiative in February 2008, the average time nursing staff are spending with patients has increased from 42.9% to 55.5%. On one ward the time spent with patients has doubled. So far 14 of our wards at GWH have started the programme and we aim for all wards to begin the 18 month programme by May 2010, helping to continue to increase the time spent with patients even further. The Trusts success in reducing its length of stay has been partly due to work undertaken as part of the Productive Ward roll out. Last year the Trust also invested a further £700,000 in ward nurses and this investment together with the work undertaken as part of the productive ward is producing tangible benefits.	T2: PW only	Productive ward is highlighted in T2 but no other reference to Lean activity is identified.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: No Lean T2: PW	T1: No Lean T2: PW	
Other Notes			

Case 88

University Hospitals Bristol NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	7000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st June 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Graham Rich	Robert Woolley		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Ron made an immense contribution to the Trust during his tenure, leading the transformation of our financial situation and of our overall performance. During his time as Chief Executive, we regained our confidence as a Trust and recovered our pride in our achievements – and rightly so.			Successful performance	A year of celebration and success
Notes on AR T2 (09-10)	It has been a year full of challenges, with an increase in activity and changes to the Trust leadership team. 'but the year ends in a good financial position….In December, Dr Graham Rich stepped down from his position of Chief Executive….In June 2009 the magazine Private Eye made public allegations about potential cases of histopathology misdiagnosis at Bristol Royal Infirmary between 2000 and 2008…(p.6) 'We started the new business year in excellent financial health and in a good position to weather future challenges, through maintaining a focus on improving the efficiency of our services.' (p.7)			Crisis	Media attention related to performance.

Process			
Service Improvement Approach	T1: We made significant progress in reducing waste, duplication and delay in some key areas such as ophthalmology, gynaecology and endoscopy, resulting in services that are more focussed on the needs of our patients. We will be extending this approach to other areas. (p.3) T1: In 2007/08, the Trust implemented the first phase of an improvement programme to streamline working practices using 'lean' methodology. (p.14) T2: 'The Board is clear that improving quality and increasing productivity go hand in hand and that the more efficiently we manage our internal processes, the better our patient care will be. To that end we have designed and initiated a programme of service redesign called Making Our Hospitals Better to spread learning and best practice across the organisation.' T2: Listed requirement for achieving planned surplus: 'Achievement of significant clinical service improvement in a planned and effective manner using lean methodology to enable the delivery of savings.' (p.18) T2: 'The Trust has continued to work to develop and expand an improvement programme to streamline working practices using 'lean' methodology.' (p.210)	T1: Programme T2: Programme	T1: Clear identification of a 'programme' od Lean projects (see content) T2: Continuation of the use of LEan methodology as part of a programme of service improvement
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: During the year 'lean' projects were undertaken in ophthalmology, gynaecology, paediatric oncology, endoscopy and cardiology… In 2008/09 the Trust will expand the programme to include pharmacy, radiology, theatres, outpatients and other services. (p.14) T2: Through our Making Our Hospitals Better programme, we aim to assist wards and departments to make fundamental changes to the way we provide services, building on a range of productive ward, productive theatre and patient safety initiatives		
Interpretation of Lean implementation	T1: Programme T2: Programme	T1: Programme T2: Programme	
Other Notes			

Case 89

Weston Area Health NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	South West			SW	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Weston-super-Mare				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	1800			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1		T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1		T2		
	Lorene Read. Lorene joined the Trust in April 2007 from George Eliot Hospital Trust in Nuneaton, where she was Deputy Chief Executive and Director of Operations and Nursing. Lorene has also worked with the University Hospital Coventry and Warwickshire, and Sandwell and West Birmingham Hospitals NHS Trusts, and in primary care, as well as acute organisations. She originally trained as a nurse in Bristol.		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	Every year in the National Health Service is remarkable for change and progress, but for Weston Area Health Trust 2007/08 was particularly memorable. It was a year of excellent progress and genuine achievement, which could be seen and felt by patients and staff alike. It was the year when Weston became one of the first Trusts in the country to treat its patients within 18 weeks of referral – the new national standard… Change was evident throughout the Trust, including at Board level. During the year, we said goodbye to our previous Chair Linda Skinner and also to some Executive and Non-Executive Directors…We both fully recognise that there are some significant concerns that we are determined to address in 2008/09. These include our unceasing work on control of hospital-acquired infection, and concentration on improving our patients' experience of the hospital environment. This is in response to concerns about issues, such as noise at night, which were raised by inpatients in our annual survey of their views this year. It really is a case of the Trust responding promptly and directly to the voice of our patients.	Performance issues	Identification of performance issues that the trust needs to address.
Notes on AR T2 (09-10)	There were difficulties and we did not achieve all our goals, but thanks to the continuing efforts of our dedicated staff and through increasingly close and effective work with colleagues in the wider health and social care community, progress was real and we are confident it can be maintained with their help. We achieved our key financial targets, as detailed elsewhere in this Review, and we maintained our strong performance in key areas, such as the control of Hospital Acquired Infections and the 18-week waiting times standard. We narrowly missed achieving the Emergency Department four-hours maximum wait standard of 98 per cent, reflecting the extreme pressures experienced in the worst of the winter, which impacted heavily on patients and staff	Performance issues	Identification of performance issues that the trust needs to address.
Process			
Service Improvement Approach	T2; Website search reveals the trust is about to embark on a transformation programme that embeds a lean thinking philosophy throughout the organisation (Source: Service improvement document, June 2009)	T1: Tentative	T2; Website search reveals the trust is about to embark on a transformation programme that embeds a lean thinking philosophy throughout the organisation (Source: Service improvement document, June 2009)
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: None T2: Tentative	T1: None T2: Tentative	

Case 90

Yeovil District Hospital NHS FT			
Construct	Data Collected	Categorical interpretation	Rationale
Context (external)			
SHA	South West	SW	
Context (Internal)			
Physical Attributes, Structure			
Area Served	South Somerset, North and West Dorset, and parts of Mendip. Increasingly, however, patients are using patient choice and deciding to come to YDH from as far afield as London and Portsmouth.		
Population/Location Characteristics			The population determines the demand of hospital services
Staff	1800	Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	180,000		
Trust Performance			
Foundation Trust Authorisation	T1: 1st June 2006 / T2:	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07: Excellent / 2007/08: Excellent / 2008/09: Good		Performance not categorised
Use of Resources (CQC)	2006/07: Excellent / 2007/08: Excellent / 2008/09: Excellent		
Leadership			
Chief Executive (name and background)	T1: Gavin Boyle / T2: Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)			
Notes on T1 AR (07-08)	I am delighted to report on another very successful year at Yeovil District Hospital. During our second year as a Foundation Trust we have maintained top ratings for governance and mandatory services throughout the year and have been deemed to be managing our finances well by Monitor, the organisation which is responsible for authorising and regulating NHS foundation trusts. One of just ten acute and specialist hospitals in the country, to receive a double 'Excellent' rating from the Healthcare Commission two years running. In their letter [from Health Sec Alan Johnson & HC Comm'n Chairman Sir Ian Kennedy] they said: "Your organisation has achieved a level of performance that all Trusts should aspire to." (p.5)	Successful Performance	A year of successful performance

Notes on AR T2 (09-10)	'As well as the challenges, there have been many successes during the year. We are particularly delighted that the Trust has maintained its excellent standards regarding healthcare associated infections; the rates at Yeovil are among the lowest in the country…We anticipate no let-up in the challenge for the year to come. We know particularly that funding is going to be tight and we will all need to take responsibility for managing our resources carefully and ensuring that our services are as efficient as possible. The best way to improve efficiency is to improve quality by eliminating waste and unnecessary steps. (p.36)	Successful Performance	No issues reported
Process			
Service Improvement Approach	T1: CARE initiative: All 1,800 staff, along with volunteers and governors, have been offered training to promote this new culture of patient care and enhanced staff working relationships across the whole organisation T2: The Trust continues to participate in the National Leading Improvements in Patient Safety (LIPS) programme and this year has also joined the NHS South West Quality Improvement and Patient Safety Programme. This challenging five year programme aims to reduce the Hospital Standardised Mortality Ratio (HSMR) by 15% and decrease adverse events by 30%. T2: The Trust continued to make progress with its iCARE programme during the New Year. iCARE is a statement of the Trust's values and embodies the principle that all patients and staff members should be treated with courtesy and with respect T2: Work continued in 2009/10 to implement the Trust's Service Improvement Strategy which included major cross-organisational projects such as the redesign of major clinical pathways together with further work to create a culture of service improvement within the hospital.	T1: No Lean	T1 and T2 both resonate with Lean principles but here is no reference to Lean in ARs or on website.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: Work began on the redesign of two clinical pathways during the year: urgent care and elective orthopaedics. Both projects aim to improve the service offered to patients by reducing delays and improving efficiencies. (p.31) T2: Following a pilot period the Acute Medical Unit (AMU), designed to improve the treatment of emergency patients, was made permanent.		
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

East Midlands

Case 91

Chesterfield Royal Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East Midlands			EM	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics	Trent is diverse and covers the rural areas of the Peak District National Park in Derbyshire and the sparsely populated communities in Lincolnshire, together with the more densely populated, multi-cultural cities of Nottingham and Derby				The population determines the demand of hospital services
Staff	3000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	375,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	Jan 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Eric Morton, Chief Executive	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'A year of innovation, investment and Improvement' (Headline of 0708 AR). 'Over the last 12-months we have begun to put the previous financial year behind us. Our focus must be to look forward on a more positive footing. Success during 2006 to 2007 was tempered by the need to make efficiency savings, following changes to the national tariff. And although staff continued to give 100% during that time, they did so while the organisation went through a workforce review programme. It was a difficult time for staff and we do not underestimate the effect this had on their well-being….We are confident that, with strong leadership, the ability to adapt and our commitment to invest, that we will continue to offer local people the standards they have a right to expect. Our aim is to create high-quality care from our resources - with services and facilities we can all be proud of.' (AR0708:8-9)			Change and uncertainty	The Trust has experienced a year of change and uncertainty but emphasises looking forward
Notes on AR T2 (08-09;	The Trust has invested heavily in improving the			Finance focus	The Trust is primarily

09-10)	facilities and building In February 2010, to meet national NHS efficiency targets, we announced that we would be looking to save around £6 million over the next financial year. To enable these efficiencies to be realised we turned to our staff – as they know the organisation better than anyone. Staff throughout the trust have worked with their directorate teams to contribute innovative ideas, proposals and plans as to how these efficiency savings can be achieved. There has been cross directorate working, wide engagement and an assurance that quality is not reduced below acceptable standards.		focussed on efficiency targets and to achieve these the emphasis is on cost saving initiatives.
Process			
Service Improvement Approach	T2: PW: 'We will also further extend the productive ward programme which will release additional nursing time to care for patients. Work will also commence to improve theatre efficiency and utilisation, via involvement in the productive operating theatre programme from summer 2009, together with development of an integrated flexible critical care workforce beginning with anaesthetic training opportunities for scrub/recovery staff working in the theatres complex.' (Annual Plan 0910:48)	T2: PW	Productive ward and productive theatres
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T2: Wards, theatres		
Interpretation of Lean implementation	T1: No Lean T2: PW only	T1: No Lean T2: PW only	
Other Notes			

Case 92

Construct	Data Collected			Categorical interpretation	Rationale
Derby Hospitals NHS Foundation Trust					
Context (external)					
SHA	East Midlands			EM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	South Derbyshire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	7500			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	600,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st July 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Ms Julie Acred	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	currently developing a £334 million super hospital: "When the work is completed, and the new hospital is fully opened for patients in early 2009, we will have one of the best facilities in the country" (AR0607) ‘We were one of only three per cent of Trusts to be rated as “excellent” by the Healthcare Commission for our use of resources. And we have been chosen to pilot a new 18-week waiting list target, ahead of the rest of the country, by December 2007, for which we have been busy preparing.’ (AR0607:2)			Successful performance	The Trust is performing in the top 3%
Notes on AR T2 (08-09; 09-10)	We are the only Trust in the East Midlands to receive the highest possible score - ‘**excellent**' for quality of services and ‘**excellent**' for use of resources by the CQC. Our vision is to build on these achievements, ‘Taking pride in caring’. (AR0809:8)			Successful performance	Continuation of strong performance
Process					
Service Improvement Approach					No process identified in AR
Elements of Lean? (RIEs, PW, waste elimination etc)	(T1) Poke Yoke: new patient wristband system with a view to recommending its use in other Trusts across the country. Pioneered by a Derby consultant, the new procedure band has now been fully introduced			T1: Few projects	The wristband system is a clear application of a Lean method

	into our theatre processes to reduce the risk of wrong-site surgery (T2) Derby Hospitals has been part of a national project to improve screening times, and working with NHS Improvement the service has looked at things differently to improve turnaround times and change the way it works. Some 'lean thinking' principles introduced have been strongly influenced by working practices used at Toyota. through using Lean Derby has reduced waiting times for smear test results from 22 days in Sept 2009 to 7 days. *"The significant reduction has been achieved through the adoption of smaller batch sizes, a new 'first in, first out' approach to work, staff-designed new ways of working, and the promotion of 'right first time' – including sending back samples with labelling errors for correction at source."* (Source: http://www.derbyhospitals.nhs.uk/pressreleases/press-releases-current/1106-smear-test-turnarounds-down-from-22-days-to-just-seven accessed 2/9/10)		T2: Clear advocation of the use of Lean principles in the trust alongside a 'few projects'.
Content			
Areas identified as under transformation	AR0809 discusses development of staff through support, education, leadership and embedding a culture of continuous improvement.		
Interpretation of Lean implementation	T1: Few Projects T2: Few Projects	T1: Few Projects T2: Few Projects	
Other Notes			

Case 93

Kettering General Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East Midlands			EM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	North Northamptonshire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3200			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st November 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Dr Mark Newbold from 2007	Derek Bray* from July 2010		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	The Trust's financial performance during 2007–2008 was very strong and we have made a surplus of £2.7m including repaying the balance of historic East Midlands Strategic Health Authority support of £1.85m…Equally we have made some major strides in our performance in other areas of our business			Successful performance	Strong performance
Notes on AR T2 (08-09; 09-10)	This has been a year of real progress for the Trust. We continued to comply with all the obligations of good financial governance and control, and we continued to meet the national targets. But we also took the opportunity, as a Foundation Trust, to seize the initiative and to focus on the things that matter most to our patients and our members.			Successful performance	Strong performance
Process					
Service Improvement Approach					No Lean identified
Elements of Lean? (RIEs, PW, waste elimination etc)					No Lean identified
Content					
Areas identified as under transformation					No Lean identified
Interpretation of Lean implementation	T1: No Lean T2: No Lean			T1: No Lean T2: No Lean	No Lean identified

Case 94

Northampton General Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East Midlands			EM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Northampton				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3800			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	360,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Good		
Leadership					
Chief Executive (name and background)	T1		T2		
	Paul Forden, Appointed Dec 08. He joins us from Norfolk and Norwich University Hospitals NHS Foundation Trust where, within four years he led the trust from a one star rating to foundation trust status, with major academic and research and development capacity... Paul has a well established reputation for building and developing high performance teams.		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	It has been another challenging year, but also a year of achievements and one in which we have made significant progress towards a brighter future for Northampton General Hospital. By the end of 2008 we hope to become an NHS Foundation Trust – giving us greater financial strength and independence, and ensuring greater patient and public involvement in the way we operate. It is a welcome change, but one which requires us to meet the very highest standards in everything we do.			Success, recovery	Suggestion of a troubled financial past of which the Trust is showing signs of recovery in their ambition for FT status
Notes on AR T2 (08-09; 09-10)	The Trust has made sustained progress in the past year, building on the improvements made during 2008/09 with an even greater focus on the quality of our services and patient safety…Our emphasis on improving service quality and ensuring our resources are used and managed effectively			Success, recovery	A continuation of a recovery theme

	enabled us to maintain our assessment of "good" for both aspects when we were assessed by the Care Quality Commission in 2009. However, as I said last year, for the Board, "good" is not good enough and I look forward to the day when we are assessed as "excellent" on both counts…I have said little about our finances. This is not because they are unimportant – indeed our financial performance (as reported elsewhere) has been satisfactory – it is because the Board remains determined to ensure that financial matters do not dominate its agenda, to the near exclusion of quality and safety.		
Process			
Service Improvement Approach	T2: Our clinical governance reporting structures have been strengthened and our service improvement team has been supported to work alongside clinical teams working on service redesign. T2: A service Improvement annual review for 08/09 and 09/10 are available on website	T2: Programme	Service improvement team in place working on service redesign plus evidwnce that the team is skilled in Lean methodology alongside a number of case studies
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Website search identifies Service Improvement Team highly skilled in Lean methodology and lots of case studies of Lean implementation in the Trust.		Presence of many projects and a service improvement team skilled in Lean suggests a programme approach as opposed to a few projects
Content			
Areas identified as under transformation	T1: PRODUCTIVE WARD. Three NGH wards are taking part in an initiative to make them more efficient, and free up more nurses' time – which can then be spent giving more direct care to patients. The 'Productive Ward' pilot is based upon 'lean' principles of removing 'waste' and non-value-adding activities in order to focus on what is important and what matters to patients. It is about finding ways to save time and effort, so people work smarter, not harder. The project has been funded by the NGH charitable fund and the first findings were revealed at the trust's first annual 'improvement summit' in April 2008. Plans are now underway for the initiative to be rolled out to all wards throughout the hospital. T2: The roll-out of our productive ward programme, coupled with investment to increase the number of permanent nursing staff, has allowed more time for patient care. T2: Projects in Pathology, theatres, cancer services, pharmacy, outpatients		
Interpretation of Lean implementation	T1: PW only T2: Programme	T1: PW only T2: Programme	

Case 95

Nottingham University Hospitals Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East Midlands			EM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Nottingham and surrounding communities				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	13000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	2.5million				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Fair	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Dr Peter Homa	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	In 2007, we were named as one of the UK's top five teaching trusts in the 'Good Hospital Guide' by health information specialist Dr Foster. The guide said that strong partnership working and high quality information were the two main reasons for our success. The trust also had one of the lowest 'standardised mortality rates' in the country…Since the merger of the Queen's Medical Centre and Nottingham City Hospital in April 2006, we have transformed into a dynamic and progressive organisation. Our opening financial deficit has now been cleared… Successful research and innovation are drivers of improvement in patient care and safety. We are working closely with The University of Nottingham to carry out an impressive research programme. This has led to improvements in patient care locally, nationally and internationally (AR0708:4).			Success, recovery	Reference to clearing of financial deficit
Notes on AR T2 (08-09; 09-10)	'The Trust's vision is to be England's best acute teaching Trust by 2016….The aim is that through the continual engagement of staff, patients and partners the organisation will be transformed into one where continuous improvement is natural and self generating. We are supporting 'Productive Nottinghamshire' to demonstrate our commitment to working together as one health			Successful performance	The tone of this excerpt is one of successful performance with a very strong vision to be 'the best'

	community to achieve quality, innovation and productivity improvements as well as the prevention of ill health. This approach requires a new collective endeavour building on recent success to drive more productive, simpler, better, more effective and economic ways of doing things.		
Process			
Service Improvement Approach	T2: 'We will consistently challenge our business models and ways of doing things to minimise waste and harness opportunities to ensure our financial strength' (AP0910:10). Continuous improvement values including to 'simplify processes' and teaching the next generation are cited in AP0910:4. Our whole hospitals change programme, called Better for You, was launched last year. This unique programme will enable us to deliver caring, safe and thoughtful care to our patients. It is an opportunity, through acting on ideas from our staff and patients, to improve our systems and processes and make sure they help us deliver high quality, efficient patient care. Staff involvement and patient feedback is crucial to the success of this programme. Early results are extremely encouraging.	T2:Few projects	Talk of a programme but it is not clear whether the programme is underscored by Lean methodology however 'waste' is mentioned which is central to Lean thinking, thus the trust is categorised as 'few projects' in the belief that Lean methodology is driving those projects.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: 'We are one of only two national pilots for a Trust-wide programme called 'Releasing Time to Care - The Productive Ward' (AR07089) Evidence of Lean Thinking through search term 'lean' on Trust website: 'The reduction in access times for patients continues to be underpinned through dedicated time-outs educating, developing and supporting diagnostic department heads in service improvement, process re-design, capacity and demand and lean thinking.' (PERFORMANCE REPORT – DELIVERING TIMELY ACCESS TO CARE, Jan 2009) PW: 'Since testing the prototype on two showcase wards in September 2007, ten cohorts of wards (66 wards in total) have now implemented the core components of the Productive Ward. (Trust Board Update – November 2009). Trust Board - 6th November 2008 reveals t that the board was asked to contract external consultancy support 'to deliver sustainable change along the emergency pathway.'		
Content			
Areas identified as under transformation	One of the first pilots, Fleming Ward, at the City Hospital campus, has already shown an increase in time spent on direct nursing care from 39% to 47% by implementing the approach. Nurses spend up to 19% of their shift looking for things, particularly equipment • A nurse walks approximately four miles over a 12-hour shift • One nurse had 202 interruptions during a shift!		
Interpretation of Lean implementation	T1: PW only T2: Few projects	T1: PW only T2: Few projects	

Case 96

Sherwood Forest Hospitals NHS FT					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East Midlands			EM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	District Councils of Ashfield, Mansfield and Newark & Sherwood, together with areas of the North East Derbyshire, Amber Valley, and Bolsover District Councils, and other surrounding District Council areas in Nottinghamshire.				
Population/Location Characteristics	Much of the area is rural, particularly towards Newark, and the higher levels of urbanisation seen in and around Sutton-in-Ashfield and Mansfield are matched by increased levels of deprivation and health need. The geographic areas served by the Trust have comparatively low indices of socio-economic measurement, with high levels of respiratory problems and other causes of chronic illness and long term disability, as a result of the industrial past and the high levels of employment in the coal mining and textiles industries. The overall impact of this local socio-economic context is higher than national average hospitalisation rates, particularly levels of emergency admissions, and this high level of health need has been reflected in the Trust"s future activity modelling. (AR0910:9-10)				The population determines the demand of hospital services
Staff	4500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st February 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Mr Jeffery Worrall. Led Trust for 9 years	Carolyn White from 1/12/09		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	**'We have just completed a tremendous first year as a foundation trust and it has been an exciting period of change and transformation.** Everything we do is focused on providing the highest quality service to patients and our efforts continued at a ferocious pace…during the year we have exceeded delivery against almost all of			Successful performance	A period of change but one that is accompanied with success

	our core clinical performance and access targets.' (AR0708:4)		
Notes on AR T2 (08-09; 09-10)	We have treated more patients more quickly and to a better standard than ever before and I'm delighted that during 2009, both our patients and staff rated the quality of the care we provide more highly than ever before…Although we have achieved much to be proud of over the last year, 2009/10 also marked the beginning of what will be an increasingly challenging period for the Trust. We faced increased financial, operational and strategic challenges and began to make the difficult decisions and changes necessary to ensure that we are able to meet the significant challenges ahead. Whilst we achieved the key targets in our financial plan, our operating costs increased and critically, we did not deliver a large part of our anticipated cost improvements. Looking forward, we face significant additional costs as we progress towards the completion of our new hospital and the coming years will be even more demanding. …make it even more imperative that we continue to embed a culture of improvement amongst our staff.	Finance focus	Successful performance tempered with financial challenge making cost improvements imperatice
Process			
Service Improvement Approach	T2: The financial challenge makes it even more imperative that we continue to embed a culture of improvement amongst our staff. the Board of Directors entered a partnership with Unipart to help us transform and improve many of our key processes and pathways. This work – **A**chieving **B**est **C**are - will help us improve our efficiency and assist us to make sure that clinical staff – doctors, nurses and other health professionals who work directly with patients – have a more direct impact on how our services are provided in the future. ' (AR0910:8)	T2: Programme	Using external management consultants known to specialise in Lean thinking to implement a programme of service improvement
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Working with Unipart on 'Achieving Best Care'. Reports of Unipart winning the contract award with the Trust suggest this occurred in November 2009.		
Content			
Areas identified as under transformation	During 2009/10, we developed our organisational approach to quality improvement, ' **A**chieving **B**est **C**are' (ABC). This work will continue to drive our strategy, transforming services and further developing our culture in support of the delivery of our pledges to patients.		Early days therefore no specific content identified
Interpretation of Lean implementation	T1: None T2: Programme	T1: None T2: Programme	
Other Notes			

Case 97

United Lincolnshire Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East Midlands			EM	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics	Rural				The population determines the demand of hospital services
Staff	7000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	686,200				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Gary Walker - In the first ten years of his NHS career, Gary worked on many NHS reconfigurations in London	Andrew North started work as Chief Executive in august 2010. He joined the Trust Trust from Northern Lincolnshire and Goole Hospitals NHS Foundation Trust, where he was Chief Executive for almost 13 years.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR	We performed extremely well over the last year to achieve some of the shortest waiting times in the NHS. 'Our performance in 2007/08 will give the Trust a solid foundation to deliver more improvements in the years to come.'			Successful performance	No issues highlighted
Notes on AR T2	We have made some good progress this year, but recognise that more can be done to improve our services. Waiting times for treatment have fallen in many specialties, but we continue to work hard to reduce them further. The past 12 months have seen a number of significant achievements which demonstrate our commitment to the continuous improvement in standards. Thanks to the hard work, energy and commitment of our staff, we have continued to make further improvements to our services. Infection prevention is an area that will remain one of our top priorities over the coming year. We pride ourselves on having very low infection rates and doing everything we can to keep our patients safe. While we received a clean bill of			Successful Performance	No issues highlighted

	health from the Healthcare Commission, our zero tolerance approach to infection prevention means we are constantly looking to make improvements in this area to further minimise the risk of MRSA and other infections.		
Process			
Service Improvement Approach	T2: PW project page on website states the vision for the Trust as : 'Getting everyone in the organisation to think in the right way, about the right things and continually challenge the way things are done.' (Source: http://www.ulh.nhs.uk/about_us/our_projects/productive_ward/ 3/9/10)	T2: PW only	
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	PW listed as 'project' on website, currently 44 wards are undertaking the project and aim to have started the Productive Ward on all wards across the Trust by the end of 2010 (Source: http://www.ulh.nhs.uk/about_us/our_projects/productive_ward/lessons_learned/ 3/9/10)		
Interpretation of Lean implementation	T1: None T2: PW	T1: No Lean T2: PW only	
Other Notes	T1 Dir of Opns & Dep CE, reportedly has a reputation for leading and enabling change through creative or innovative approaches and, in particular, using learning from other sectors to shape future developments		

Case 98

Burton Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Burton upon Trent and surrounding areas				
Population/Location Characteristics	Predominantly rural borough of East Staffordshire, just 11 miles south of Derby and 30 miles north-west of Birmingham 'a thriving cultural scene within Burton and the surrounding areas; well served for houses and transport'			Rural	The population determines the demand of hospital services
Staff	2500			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	360,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st November 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Paula Clark	Helen Ashley		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Developments and improvements, some of which are detailed in this Annual Report, mean we achieved a rating this year of 'good' for our quality of services. We achieved 'fair' again for our use of resources but throughout the year we have been able to demonstrate ongoing improvement against these ratings.' (AR0708:6) 'Financially, we generated a planned surplus required to repay part of our historic debt for the second year running.' (AR0708:7)			Success, recovery	The trust has had a successful year in terms of its improvement and shows signs of financial recovery.

Notes on AR T2 (09-10)	'In April 2008, our Trust was named the most improved in the country in the prestigious CHKS list. Not only did we enter the list's top 40 for the first time in our history, but also we rose 72 places in the rankings to do so. Just days later, the Healthcare Commission's 2007 National Staff Survey revealed our Trust also had the resounding support of its staff whose responses put us in the top 20 acute trusts in England in nine key areas.' (AR0809:8)	Successful Performance	The trust has had a very successful year.
Process			
Service Improvement Approach	T2: In order to ensure our Trust is ready to meet these challenges we are acting by: • moving forward our Transforming to 2012 programme, to ensure that our estate is used to best effect, and linking it into our ongoing Lean programme which is refining clinical pathways and supporting processes to drive efficiency (AR08/09:13) T2; 'over the next five years with reconfiguration of our estate to provide 21st century patient facilities and the redesign of our services using lean methodology.' {Message from the Chairman on the Trusts website: (http://www.burtonhospital.com/ accessed 13th September 2010)	T2: Few projects	There is no indication that the Lean 'programme' is supported by training and education across the trust, thus the approach to Lean implementation is categorised as 'few projects'.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Clinical pathways		
Interpretation of Lean implementation	T1: No Lean T2: Few projects	T1: No Lean T2: Few projects	
Other Notes			

Case 99

Dudley Group of Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Dudley				
Population/Location Characteristics	The proportion of people aged over 65 is 17% with 19% aged under 14. Black and minority ethnic groups make up 6.3% of the population which is just below the national average.				The population determines the demand of hospital services
Staff	2783			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st October 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Weak		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Paul Farenden, has a reputation for achieving 'continuous improvement' and turnaround in the NHS	Paula Clark, joined in October 2009 from Burton where she led the Trust to FT status.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'**Some of the key highlights this year include:** ❑ we once again received a rating of 'good' for use of resources and 'good' for quality of care from the Healthcare Commission (now the Care Quality Commission) ❑ we have achieved or exceeded virtually all of our operational targets ❑ we have met and exceeded our infection control Targets (AR 0808:5)			Successful Performance	No issues identified

Notes on AR T2 (09-10)	It has been a rollercoaster time at the helm of a busy Foundation Trust, joining at a time when the media was taking us to task over a drop in our Care Quality Commission (CQC) rating from Good to Weak, and a visit from the CQC which found certain areas of the Trust to be below the standards both they and we would expect for our patients. I am pleased to confirm that a revisit by the CQC in November 2009 found our standards to be much improved and also that we have already made great strides towards improving our rating in areas in which we had underachieved...	Success, recovery	The trust has recovered from a 'crisis'
Process			
Service Improvement Approach	T2: Our transformation programme will also play a large part in helping us meet the funding shortfall by helping us to streamline our processes and to cut out waste wherever possible.		The transformation programme highlighted in T2 sound like Lean philosophy but no mention of Lean is identified
Elements of Lean? (RIEs, PW, waste elimination etc)	Echo Lean		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 100

George Eliot Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Nuneaton and Bedworth, North Warwickshire, South West Leicestershire and Northern Coventry				
Population/Location Characteristics	The Trust serves a range of urban and rural communities encompassing areas of both socio-economic affluence and some deprivation. A high morbidity rate in lung disease and cancer, a higher than ave rate of teen pregnancies				The population determines the demand of hospital services
Staff	1728			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	280,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1		T2		
	Sharon Beamish, in post 2 years. Her achievements have been delivered through clinical engagement, building capability and capacity to deliver change and improvements with delegated authority and personal accountability		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'In summary, the last year has been marker by improvements in every sphere of activity; most notable improving patient care and reducing infection rates; better processes and systems; stronger leadership and stable finances.' (AR0708:5)			Successful performance	The trust has improved its performance.

Notes on AR T2 (09-10)	It has been a very busy yet highly productive year…we have finally put the well-publicised period of financial instability behind us and the focus is on providing the highest levels of care and service to our patients and the community we serve.' 'Although we are a small organisation, we have the determination to be the best at what we do' Part of the Trust's strategy is to become a foundation Trust, an ambition that faced a set back due to Warwickshire PCT withdrawing its support for the hospital's bid citing concerns over performance.	Success, recovery	The trust has overcome its financial difficulties
Process			
Service Improvement Approach	T2: 'deliver healthcare advice and treatment in the right place at the right time and with the minimum number of steps in the patient pathway' (AR0809:2)	T2: No Lean	Sounds like Lean but Lean is not explicitly referenced.
Elements of Lean? (RIEs, PW, waste elimination etc)	Productive theatre and Productive Ward		
Content			
Areas identified as under transformation	Wards, theatres		
Interpretation of Lean implementation	T1: No Lean T2: PW only	T1: No Lean T2: PW only	
Other Notes			

Case 101

Heart of England NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	East Birmingham, Solihull, Sutton Coldfield, Tamworth and South Staffordshire.				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	10,000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	1 million				
Trust Performance					
Foundation Trust Authorisation	T1		T2	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	Dr Mark Goldman. Since April 2001. Dr Goldman led the Trust to three star status by meeting all national targets and then to Foundation Status in April 2005. Dr Goldman was also involved in the original writing of the NHS Modernisation Plan and has subsequently served on the Modernisation Board.		Dr Mark Newbold appointed Chief Executive of the Trust in August 2010	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	This has been a successful year for the Trust, in which we have overcome considerable challenges. These included the integration with Good Hope Hospital, meeting Government waiting list targets and remaining financially sound. We achieved all these goals. One area of disappointment was our inability to meet the trajectory for the reduction in MRSA set by the Department of Health...It is now crucial that we move the Trust's performance agenda away from a position of year-on-year stability towards one entirely focused on quality, patient safety and improvement.' (AR0708:7)	Performance issues	The CE describes a successful year but there are some outstanding performance issues
Notes on AR T2 (09-10)	we have scarcely had a more difficult year than reported in these accounts...In the light of the fact that we failed to deliver the winter target for three consecutive years, the Trust's regulator, Monitor, elected to find us in breach of our terms of authorisation.	Crisis	Performance issues led to a crisis where Monitor finds the trust in breach of terms of authorisation
Process			
Service Improvement Approach	T1: Lean Academy T2: The Trust's Transformation Programme is an organisation wide continuous improvement programme applying improvement methodologies such as LEAN, organisational development and systems thinking to improve patient quality, staff morale and productivity (AR:0910)	T1: Programme T2: Programme	The trust identifies a Lean 'programme'
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			

Areas identified as under transformation	T1: An 'HR process transformation' plan is in place that focuses on using LEAN techniques. This has already helped reduce the time to hire staff from an average of over 15 weeks to 10 weeks. This is being further reduced by the implementation of 'talent pools' of job ready candidates for Nursing and HCA roles.' (AR07/08:25) 'Re-design of patient pathways utilising LEAN methodologies created enhanced services for respiratory patients, frail elderly, stroke patients and ortho-rehab. A more comprehensive programme of transformation is planned for early 2008/09 with a focus on 'world class wards' and improvement to the emergency care pathway. (AR07/08:26) 'Redesigned cataract pathway using LEAN methodology across all three sites and standardised patient pathway.' (AR07/08:28) 'Use of LEAN methodology to streamline the current complaints process to enable the organisation to respond appropriately and more efficiently to patient complaints.	T1: Programme	A number of projects are described. Little discussion of staff training however despite the establishment of a Lean academy in T1.
Interpretation of Lean implementation	T1: Programme T2: Programme	T1: Programme T2: Programme	
Other Notes			

Case 102

Hereford Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Hereford				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	1800			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	225,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Martin Woodford	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'The Trust is to be congratulated for its financial performance. Whilst we did not earn the levels of income we planned, we did deliver both a year end surplus and the elimination of the organisation's underlying deficit. This reflects the firm grip on income and expenditure of the management team' (AR0708:3) 'Looking back at the last year, there is clear evidence that 2007/08 represents a turning point in the fortunes of the Trust and the County Hospital…These successes did not arrive soon enough to enable us to progress our Foundation Trust application as we intended… We now anticipate achieving Foundation status within the next two years.' (AR0708:3)			Success, recovery	The 'fortunes' of the trust have purportedly been turned around in T1
Notes on AR T2 (09-10)	This has been a year of exceptional performance across many areas of our work, as we make good progress against our key objectives' (AR0910:5)			Successful performance	No issues highlighted
Process					

Service Improvement Approach	T1: 'Meeting the challenges of providing faster access to the hospital and improving the patient experience has required us to 'redesign' many of the services that we deliver. To do this we have created a small team trained in 'Lean' techniques… Over the coming years we will involve all staff in our drive to create a culture of continuous improvement based around the patient.' (AR0708:5) T2: Our 'LEAN' project looks at the patient's journey through the hospital system (their 'pathway') to help identify improvements and reduce costs. With the support of The Manufacturing Institute and Unipart we focused on the Elective Care and Emergency Pathways and have seen some significant results. (AR0910:12)	T1: Programme	T1: Lean is identified as a methodology to create a culture of continuous improvement over a number of years. T2: The AR talks of a lean 'project' but the project is not confined to parts of the organisation. The employment of the manufacturing institute and Unipart suggest that the trust is continuing a 'programme' approach.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Reduced waiting times for diagnostic tests l Reduced delays in providing medication to patients on discharge l Improved efficiency in our operating theatres l Improved the discharge process for patients through better planning T2: describes a number of projects using Lean, see page 12 AR09/10.	T1: Programme T2: Programme	A number of projects are described in T1 and T2
Interpretation of Lean implementation	T1: Programme T2: Programme	T1: Programme T2: Programme	
Other Notes			

Case 103

Mid Staffordshire NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Stafford, Cannock, Rugeley and surrounding areas				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Weak	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Weak		
Leadership					
Chief Executive (name and background)	T1	T2			
	Martin Yeates	Antony Sumara		Change	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	During 2007/08 the Trust faced and overcome some difficult strategic and operational challenges. Towards the end of the year the Trust was informed by the HCC that it was launching an investigation to establish whether the Trust is maintaining appropriate standards in the management, provision and quality of its services. The Trust is cooperating fully with the Healthcare Commission and has agreed to provide all information and support that may be necessary throughout the course of the investigation which is due to be completed in October and reported early in 2009.' (AR0708:15)			Crisis	Intervention from the Healthcare Commission (HCC) which preceeded the Care Quality Commission (CQC).

Notes on AR T2 (09-10)	A very public CRISIS that saw the removal of the Trust's CE Martin Yeates in 2009. 'The past year has been extremely tough for our staff, patients, their families and the public we serve… It ended with the publication in February 2010 of the Report of the Independent Inquiry chaired by Robert Francis QC into the care provided by our Trust between January 2005 and March 2009. On behalf of the Trust we would like to apologise unreservedly for the harm and distress that people suffered during that time and thank those who spoke to the Inquiry. Their courage in coming forward has helped us learn from the errors of the past and to make changes that are already improving our services…. When we took up our posts in August 2009, our first impressions of the hospital were that it was clean and the staff were friendly and welcoming. Most of the staff were caring and professional and there were areas of good practice, however, underneath the surface there were serial failings which went deep within the organisation. To change the way a failing organisation operates, whilst still maintaining key services for the community required a clear vision. We needed to have proper accountable management, substantial investment in facilities and staffing along with a framework for clear decision making. We have worked with the Trust Board and our Governors to set out our vision for improvement under five key themes and we have consulted on these with our staff and patient groups. These five themes are used as a focus for all work including our meeting agenda papers, staff briefings and newsletters, staff appraisal and objectives setting, and business planning. Our five themes are: 1 Creating a culture of caring 2 Seeing zero harm as our target by keeping patients safe 3 Listening, responding and acting on what our patients and community are telling us 4 Supporting our staff to become excellent; giving responsibility but holding to account as well 5 Continuing to do what we need to do to satisfy our regulators. (AR0910: 'Financially, the year was an extremely challenging one, with the primary focus to respond as positively, and as quickly as possible, to the criticisms and recommendations contained within the various reports referred to on page 7. Page 12 of 118 [AR0910]. Many of the recommendations contained within the reports related to disinvestment decisions made several years ago and their subsequent impact on healthcare standards. Not surprisingly when the Trust accepted in full the report recommendations contained within the three reports it was in effect signalling the start of a significant investment programme.' (AR0910:11) 'It has to be concluded that as a result of the publication of critical reports, the Trust saw a drop in elective referrals and admissions. Our local commissioners saw a corresponding increase in some contracts surrounding our borders which would indicate that some patients or their family doctors elected to exercise patient choice to be treated at another Trust in 2009/10. The impact of this is that whilst the Trust is investing in improving its services and facilities its income has	Crisis	The crisis has escalated.

Process			
Service Improvement Approach	T2: In response to the report a Transformation Programme was developed in May 2009...underpinned by the five themes outlined in the AR. Revenue for the Transformation Programme of £4,500k. This is non-recurrent funding (a grant from Warwickshire SHA) to support the Continuous Improvement Programme across Mid Staffordshire NHS Foundation Trust		
Elements of Lean? (RIEs, PW, waste elimination etc)	No mention of Lean specifically although an earlier evaluation by Radnor (2007) suggests that Lean methodology was being used in the Trust prior to the crisis of T2. T2: google search 'mid staffs and Lean' identifies strategic planning document the states the use of lean principles in small isolated projects alongside productive theatres	T1: Few projects T2: Few projects	Evidence of a few projects during T1 and T2.
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes			

Case 104

Sandwell and West Birmingham NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Birmingham, Sandwell and West Bromwich, Solihull				
Population/Location Characteristics	Located at the centre of the West Midlands conurbation means that we serve some of the most diverse and economically deprived communities in the UK.				The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1		T2		
	John Adler since July 2002. John has wide-ranging experience of NHS management including operational management, service re-design and strategic development, PFI, joint ventures and financial turnaround		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	'To complete our period of financial recovery we delivered a £13m cost improvement programme and achieved a surplus of £6.5m which will be used to repay a loan from the Department of Health. We plan a further surplus of £2.5m this year, which will clear the remainder of the loan… In December, the Secretary of State gave his approval for our plans for surgical reconfiguration and we are working closely with our clinicians to implement those plans during the coming year… We are planning more big improvements to the ward environment and the experience our patients have, and are developing plans for greater engagement with patients and local people' (AR0708:5)	Success, recovery	The trust has recovered from a period of financial deficit and has produced a successful performance during T1.
Notes on AR T2 (09-10)	'Through the innovative "Listening into Action" (LiA) programme we have begun to deliver a step change in levels of staff engagement in addressing the issues facing the Trust. LiA involves staff in identifying and delivering changes in key areas to improve the services we provide and to date over 2,000 staff have taken part across the Trust… We have made significant progress in delivering our long-term strategy through the Right Care, Right Here Programme (formerly the Towards 2010 Programme) (AP0910:6)	Successful Performance	No issues highlighted.
Process			
Service Improvement Approach	T1: The Trust has launched 'Listening into Action' – a programme of staff engagement designed to change the culture of management within the Trust.		Talk of changing 'culture' but no evidence of Lean.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: PW T2: PW	T1: PW T2: PW	
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: PW T2: PW	T1: PW T2: PW	
Other Notes			

Case 105

Shrewsbury & Telford Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Shrewsbury and Ludlow, the market towns of Oswestry, Bridgnorth and Whitchurch, and Newtown and Welshpool in Powys.				
Population/Location Characteristics	The largely rural Shropshire area has an older than average population, with low levels of income deprivation overall and generally good health. Access can be a problem most sparsely populated counties in England which means that health and other services tend to be based in the main population centres. In contrast, Telford and Wrekin has a younger than average population and, although deprivation overall is lower than the national average, there are significant pockets of deprivation in some council wards. Patients also come to the Trust from northern Powys, which is an extremely rural county covering almost one quarter of Wales. The population of the area is older than the average for England and Wales, and the rural nature of the county means that access to services can be particularly difficult.			Rural	The population determines the demand of hospital services
Staff	5000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	5000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Fair	Good		
Leadership					
Chief Executive (name	T1	T2			

and background)	Tom Taylor	Adam Cairns appointed July 2010, previously CE of Airedale NHS Trust. Adam has led a significant turnaround in the organisation's fortunes. This includes their recent achievement of NHS Foundation Trust status, and as a result of the strong patient safety record, the Trust has been the Dr. Foster Hospital Guide Small Hospital of Year in three of the last four years (Source: Press release May 2010 http://www.sath.nhs.uk/news/news_articles/New_Chief_Executive_Appointed.asp accessed 13/9/10)	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)				
Notes on T1 AR (07-08)	T1 reports a 'backdrop of organisational change...we were not able to meet our challenging targets for MRSA during the year...on target to pay off our remaining loans and achieve sustainable financial balance. We have made an important change to our vision statement. In the past we have focused on "two clinically sustainable hospitals". Looking ahead we recognise that we have a much more significant role providing health services in community hospitals and other community settings. Our vision has been updated to reflect this. A framework of values is presented.		Performance issues	A backdrop of organisational change is described related to poor performance
Notes on AR T2 (09-10)	'The year ahead presents new opportunities and challenges – with the national financial climate, the need to resolve the challenges facing some of our clinical services, and making our services fit for the expectations of the new government.' (AR0910:4)		Financial focus	The 'financial' climate seems to be a primary concern.
Process				

Service Improvement Approach	The Service Improvement Strategy for 2007/08 focused on supporting continuous, sustainable improvement in patient care and experience. The Trust has used a process known as "Lean Thinking" to drive these improvements. Lean is basically about getting the right things to the right place, at the right time, in the right quantities, while minimising waste and being flexible and open to change The Trust's service improvement plan had three primary aims: • Embedding a culture of sustainable continuous improvement within the organisation, placing a clear priority on putting patient care first. • Achieving measurable efficiency and productivity gains by the complete and thorough elimination of waste throughout the entire patient journey. 5. The pursuit of excellence within service provision to ensure we are the provider of choice for our customers. (AR0708:30) T2: Continued use of Lean methodology and roll out of PW (see AR0910:13)	T1: Programme	T1 & T2: The implementation of Lean appears to be a very structured affair rather than a few adhoc projects.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Productive Ward. 'During 2008/09 the Productive Ward scheme will be rolled out to all wards across both sites.' (AR0708:30) 'A&E has been involved in a project to introduce 'Lean' management techniques. This is a system whereby members of staff are more closely involved in management decision-making and are encouraged to identify and address problems in the working environment'. T2: Continued use of Lean methodology and roll out of PW (see AR0910:13)		
Content			
Areas identified as under transformation	Supply chain: 'During 2007/08 the Trust has made significant progress with lean supply chain efficiencies which have been acknowledged at both regional and national level' Wards, A&E a number of other projects		
Interpretation of Lean implementation	T1: Programme T2: Programme	T1: Programme T2: Programme	
Other Notes			

Case 106

South Warwickshire General Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	South Warwickshire: Kenilworth, Royal Leamington Spa, Southam, Stratford-upon-Avon and Warwick				
Population/Location Characteristics	Estimates suggest that life expectancy of the local population is continuing to rise and large increases in the number of elderly people are forecast. Population growth and age remain as the key drivers for acute services in the area.				The population determines the demand of hospital services
Staff	2200			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	270,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT2	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
		FT2			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Glen Burley, Finance background. Appointed 2007/08	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'Our achievements in 2007/08 have enabled us to put the troubles of our recent past behind us and look to the future with a sense of genuine optimism about what is to come. With the benefit of sustainable financial balance, leadership from a stable and extremely competent team and the continued dedication and enthusiasm of our staff, we are in a strong position to meet the challenges of the coming years.' (AR0708:2)			Success, recovery	The statement reflects upon overcoming a troubled past

Notes on AR T2 (09-10)	'Activity growth in some services was well beyond the expected levels, and at times during the winter this placed severe strain on our staff and facilities. Once again these pressures impacted on A&E performance, but service quality was maintained more effectively than in the previous winter…The Trust moves into the new year with the new identity of South Warwickshire NHS Foundation Trust, with renewed self-confidence and greater freedom to control its own destiny.' (AR0910:4)	Successful performance	No performance issues highlighted.
Process			
Service Improvement Approach	T1: AR0708 states as an objective for 09/10 'A lean improvement prog to maintain financial stability (See AR0708:9) T2: The Trust embarked on a three year project funded by the Health Foundation which is looking at the links between improving quality and reducing cost. This project will start to implement some of the work streams during 2010/11 which should lead to longer term cost improvements.	T1: Tentative T2: PW only	T1: the objective is to begin a Lean improvement programme in T2. T2: Only PW is mentioned in T2, Lean is not explicitly identified.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: Tentative T2: PW only	T1: Tentative T2: PW only	
Other Notes			

Case 107

The Royal Wolverhampton Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Wolverhampton, the wider Black Country, South Staffordshire, North Worcestershire and Shropshire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	5000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1		T2		FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Fair	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	David Loughton, appointed 2004. During his career he has developed a new Medical School with Warwick University and achieved financial close on a £400 million new hospital PFI. He has now turned around one of the 17 most financially challenged Trusts in the NHS, whilst improving the quality of care provided to patients		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	'This annual report marks the end of a very difficult period for New Cross Hospital. In 2004, the Trust received a damning report on Maternity Services, was in financial crisis, and was losing public confidence in the services it provided. In the last 12 months, the Trust has won the Health Services Journal Award for Patient Safety, the Secretary of State Award for Excellence in Healthcare Management, and the Health & Social Care Award for having turned around the organisation.' (AR0708:1)	Success, recovery	The statement reflects on a period of crisis of which the trust feels has now been recovered.
Notes on AR T2 (09-10)	'a year that has been marked by attainment and success across our Trust…Our Trust was the only Trust in Birmingham and the Black Country to be rated as 'Excellent' for quality of services'.	Successful performance	No issues highlighted.
Process			
Service Improvement Approach	T1: '"The whole philosophy about what we are doing is engaging staff in finding out what needs to be done and then doing it. They can collect together for a day or two and we construct what is going on now and then construct how it should look in the future. Staff do the work and provide all the ideas, helped by the service improvement team." (Head of performance and Service improvement, AR0708:8). [Sounds like an RIE.] T2: At the tail end of the year we started a major staff engagement programme that we have called "listening into action". We expect to do exactly what it says in the title – listen to our staff and put into action the ideas they come up with. We recognise that innovation and change is best driven by those working close to patients. The reaction to this initiative has been very positive and we look forward to celebrating implementation of the best ideas in the coming year.(AR0809:3)	T1:No Lean T2: PW	T1: Sounds identical to a rapid improvement event (RIE) but LEan is not specifically identified. T2: PW is identified in the reports but the improvement approach still echoes bottom up Lean. Perhaps this is an example of Lean methodology being used in the Trust but the Chief Executive does not 'buy in' to Lean or does not understand it or does not want to acknowledge it.
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: PW (AR0809:19); talk of improving pathways but function specific		
Content			
Areas identified as under transformation	T1:mainly estates, buildings and customer service		
Interpretation of Lean implementation	T1: No lean (Echo RIEs) T2: PW (Echo few projects)	T1: No lean T2: PW	
Other Notes			

Case 108

University Hospitals Coventry & Warwickshire NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Coventry, Rugby				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Martin Lee (Interim), Malcolm Stamp appointed Feb 2008.	Andrew Hardy, appointed June 2010		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Last year was a challenging but successful year for the Trust with some remarkable achievements, once again providing high quality care to our patients whilst redressing a £30 million financial imbalance…Despite making such advances, and achieving most of our key targets, we experienced difficulties with the four hour emergency wait and the 18 week referral to treatment trajectory…The continued demand to reduce waiting times, the evolution of patient choice and payment by results will require strong, effective clinical and managerial leadership' (AR0708:3)			Performance issues	Despite a successful recovery from financial deficit the Trust is now struggling with the 4 hour wait

Notes on AR T2 (09-10)	'The past year has been one full of challenges and opportunities but our aim throughout has remained the same - to provide excellent patient care through learning and discovery…a very firm footing as we move onwards with our application to become a Foundation Trust' 'We have recently rolled out a new long-term strategy for UHCW NHS Trust…our mission and pledge to our entire population is to "Care, Achieve, Innovate" = Deliver the best care for our patients; Achieve excellence in education and training; Innovate through research and learning (AR0910:9)	Successful performance	No performance issues highlighted.
Process			
Service Improvement Approach	T1:During 2007/2008 we rolled out 'Lean' methodology across the Trust. A number of events were held in Radiology, Theatres and the Emergency Department that resulted in tangible improvements in service. T2: 'Efficiency': Over the last 12 months work has been undertaken to build on the Trust's decision to establish a co-ordinated approach to service improvement and efficiency via a programme called IMPaCT. This is one of the key vehicles by which the Trust will improve the quality and efficiency of the services it delivers through process and system redesign, and cultural transformation.	T1: Programme T2: Programme	T1; description of Lean methodology being 'rolled out' across the trust suggests a structured programme approach. T2: The IMPaCT programme is based on Lean methodology (see case study)
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Radiology, Theatres and the Emergency Department		
Interpretation of Lean implementation	T1: Programme T2: Programme	T1: Programme T2: Programme	
Other Notes			

Case 109

University Hospital Birmingham NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	South Birmingham				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	6700			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st July 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Julie Moore	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'one of the highest performing and most successful trusts in the NHS and has been given the maximum three stars for the past four consecutive years'			Successful performance	No issues highlighted
Notes on AR T2 (09-10)	'University Hospitals Birmingham NHS Foundation Trust (UHB) is the leading university teaching hospital in the West Midlands. It is one of the most consistently high performing trusts in the NHS and has been rated "excellent" for financial management and "excellent" for quality of clinical and non-clinical services by the Healthcare Commission. On 16 June 2010 UHB's new £545 million Queen Elizabeth Hospital Birmingham opened' (Home page, website accessed 20/10/10).			Successful performance	No issues highlighted
Process					

Service Improvement Approach	T1:'During 2007/08 the Trust has introduced lean thinking methodologies within a number of key areas resulting in significant improvements in efficiency and throughput…it is intended Lean thinking will be rolled out to other departments in 08/09)' T2: 'The Trust's focused approach to quality is driven by innovative and bespoke information systems which enable us to capture and use real-time data in ways which few other UK trusts are able to do. (Quality Account 0910:1)	T1: Few projects	T1: Encouraging response to the use of Lean in the Trust, no structured 'programme' as yet though.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Few Projects T2: Few projects + productive ward, use of a Ward dashboard		T2: Still evidence of a 'few projects' (see Content')
Content			
Areas identified as under transformation	T2: The Trust has applied LEAN projects to Theatres to improve utilisation and planning. An outcome of this work includes the way in which capacity is planned for major surgical cases. In the New Hospital there is critical care that can be flexed to contribute to the trust's ability to plan for elective admissions post procedure this ensures sufficient critical care capacity is identified (AR0910:11)		
Interpretation of Lean implementation	T1: Few Projects T2: Few projects	T1: Few Projects T2: Few projects	
Other Notes			

Case 110

University Hospital North Staffordshire NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Stoke-on-Trent, Newcastle-under-Lyme, the Staffordshire Moorlands and surrounding areas.				
Population/Location Characteristics	Good transport links, being close to the M6 and A50, and lie roughly centrally between Manchester and Birmingham to the north and south, and Derby and Shrewsbury to the east and west.				The population determines the demand of hospital services
Staff	6070			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2			FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Julia Bridgewater appointed 2007	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Our recent history has been one of significant challenge. The commitment, dedication and hard work of our staff at all levels has now created a platform for our future sustained development and improvement … Despite achieving financial recovery in 2007/08 there is still considerable focus on the Trust's finances. We are committed to providing value for money and achieving efficiency improvements – as long as this is consistent with high quality patient care. (AR0910:4)			Finance focus	Despite some recovery the statement still reflects a strong financial focus.

Notes on AR T2 (09-10)	'Without doubt the highlight of our year has been the opening of our new maternity centre and cancer centre. These publicly funded projects opened on time and on budget. Staff who would be working in them were heavily involved in designing and equipping the new centres which now provide a world class setting for our excellent clinical services.. Our emergency department (A&E) is one of the busiest in the country. Sometimes in the early part of the year, when many patients arrived within a short time frame, staff found it difficult to provide care to the standard we all expect. That is, of course, unacceptable and required urgent action. To improve the experience for our patients and reduce the pressure on our staff we have brought in more doctors and nurses, introduced a system of rapid patient review by senior doctors, built ten more cubicles so that patients can be seen more quickly and introduced a new ward to which patients can be referred directly by their GP. These changes were designed to enable us to cope with the record numbers of patients who came to the department during the most difficult winter for some years. However, the problems at the beginning of the year have meant that, overall, we missed the national 4 hour maximum wait target (98%) by just 0.2%. This is a great disappointment… To deliver our new hospital and associated services in the community, we will need to change or transform our hospital services by 2012/2013. (AR0910:5)	Performance issues	The trust is experiencing performance issues and has reacted by throwing more resources at the system. Despite this they still didn't meet the national target for 4 hour maximum wait.
Process			
Service Improvement Approach	T1: A LEAN Team have piloted LEAN Methodology throughout the pathology laboratory to streamline processes within the department targeted at specific problems … We are now looking at other areas where LEAN methodology can be used to support service transformation, which is one of our strategic objectives. (AR0708:12). T2: stated motto: 'Everyone improving quality' (AR0910:5) 'University Hospital's achievements were recognised at the Lean Healthcare Academy Awards in November 2009 where we won Organisation of the Year, Lean Champion of the Year and the Productive Series awards. Heidi Poole, Lean Champion of the Year, is passionate about reducing waste and encourages others in the quest through her training sessions and monthly newsletters. (AR0910:9)	T1: Few projects T2: Systemic	T1: A few projects are described including a successful pilot in pathology. T2:The motto embraces the 'everyday problem solving' culture that is vital to a systemic approach to Lean implementation.

Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Streamline processes T2: 'Staff all around the hospital are looking closely at the way they work and are changing what they do in order to avoid unnecessary or duplicated processes. The results have been remarkable and, because the changes are made by the staff involved, they are sustained and become simply the way people now work' (AR0910:9)		
Content			
Areas identified as under transformation	T1:Pathology Laboratory T2: In order to be fit for purpose and to support clinicians in providing the best service in the new hospital, directors made the decision over two years ago to introduce a transformation programme. The programme operates under the banner of 'Everyone Improving Quality' and utilises lean management techniques to facilitate change. We currently have over 25 transformation workstreams, including length of stay, lean discharge, pharmacy, service line management and specific individual department projects. Tremendous benefits have already been achieved in pathology reception processes, stroke care and fractured neck of femur pathways, all of which are led by dedicated clinicians bringing about real change.	T1: Few Projects T2: Systemic	T2: Clear evidence that the decision to implement Lean in the organisation is taken at a Director level
Interpretation of Lean implementation	T1: Few Projects T2: Systemic	T1: Few Projects T2: Systemic	
Other Notes			

Case 111

Walsall Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Walsall				
Population/Location Characteristics	Town location				The population determines the demand of hospital services
Staff	3200			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	253500				
Trust Performance					
Foundation Trust Authorisation	T1		T2		FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1		T2		
	Sue James, appointed Oct 2003. An enthusiastic advocate of leadership development as a major change agent in the NHS. CE was also part of modernisation agency in 2002 supporting zero rated trusts		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	'This year has been really significant in the history of the Manor Hospital. It is the year that the construction of our long promised new hospital actually started…We must all look forward and make plans to deliver the excellent quality of service this new facility will permit and Walsall deserves. Achieving this will involve changing how we deliver our services, which will mean challenging the status quo but I am convinced that everyone at the Manor is ready for that challenge…The past few years have seen almost constant change but it has already been proven that we can cope in such an environment.	Change, structural	The statement has a theme of 'change', the Trust has experienced a good deal of change but has reportedly weathered it well, soon there will be structural changes also.
Notes on AR T2 (09-10)	'There are many changes for staff, who have been working hard to shape our services in readiness for the new hospital and the move from our outdated buildings into state-of-the-art facilities. For patients, not only will they be treated in a comfortable, modern environment, they will also find our services transformed, delivered in a more efficient way, with quality and their convenience uppermost in mind.	Change, structural	The trust is going through a period of structural change due to a move into the new hospital building.
Process			
Service Improvement Approach	T1:Productive Ward has been launched in two wards, with plans for it to be rolled out Trust-wide T1: Our customer care has been improved by the introduction of our 6 C's model for a good patient experience and we are regularly asked to present our work at regional and national conferences. T1: In previous years, reducing costs in hospitals meant slashing services. This is no longer the case. In our transformational world, reducing costs means eradicating waste and improving productivity. T2: Our Paediatric Hospital at Home is an example of how we can deliver a more patient-focused service in a way that is also more cost-efficient.	T1: Few projects T2: No Lean	T1: A website search identifies a few projects based on Lean methodology. T2: No explicit reference to Lean but an echo of Lean principles prevail.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: PW T2: no references specifically to Lean or PW, continuing theme of 'transformation' and redesigning services to improve services. Website search using 'Lean' revels a number of documents dated 2008 that reveal Lean as the methodology driving the service transformation programme		
Content			
Areas identified as under transformation	T1: Wards		
Interpretation of Lean implementation	T1: Few projects T2: No Lean	T1: Few projects T2: No Lean	

Case 112

Worcestershire Acute Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	West Midlands			WM	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Worcestershire, Reddit, Kidderminster				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	5000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		No FT	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	John Rostill	Same.		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'The significant underlying deficit, which two years ago stood at £20m and was at the root of the Trust's historic financial problems, was reduced significantly during 2006/07 and has been turned into an underlying surplus of £3.4m in 2007/08.the Trust is no longer in recovery mode. It has achieved a major turnaround in its finances and should look forward with confidence.' (AR0708:4-5)			Success, recovery	The Trust reveals that it is no longer in 'recovery mode'.
	We recognise the hard work and excellence achieved by our staff, and to show our appreciation we held our biggest ever Hospital Heroes staff achievement awards ceremony, handing out awards in 14 categories.				
Process					

Service Improvement Approach	T1: Neil Westwood is the Head of Continuous Improvement at Worcestershire Acute Hospitals (appointed Jan 2008). He will be working directly with the Chief Executive, John Rostill to transform the Trust using lean thinking…We hope to be able to share our developing expertise with other organisations, both inside and outside the NHS, through the development of a 'LEAN Centre' offering advice, coaching, training and consultancy in all aspects of lean thinking and continuous improvement. T2: Lean is much less visible, a search of Trust documents using the word Lean reveals some mention of Lean applied to maternity and pathology projects in isolation	T1: Programme T2: Few projects	T1: A structured approach to Lean implementation is in evidence. T2: Few projects
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: A Lean centre, and head of continuous improvement T2: no mention of Lean in report, Evidence of PW from photo		
Content			
Areas identified as under transformation	Wards, maternity, training		
Interpretation of Lean implementation	T1: Programme T2: Few Projects	T1: Programme T2: Few Projects	
Other Notes			

Yorkshire and the Humber

Case 113

Airedale NHS Trust (www.airedale-trust.nhs.uk)				
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Yorkshire and Lancashire				
Population/Location Characteristics	a vast geographical area covering 500 square miles and including diverse and beautiful parts of Yorkshire and Lancashire - stretching as far as the Yorkshire Dales and the National Park in North Yorkshire, reaching areas of North Bradford in West Yorkshire and extending into Colne and Pendle in the East of Lancashire				The population determines the demand of hospital services
Staff	2100			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	200,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	No.	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	Adam Cairns. His recent achievements have included the establishment of the LEAN Healthcare Academy at Airedale. Acknowledgement of his work in this area was given to Adam by the LEAN Healthcare Academy in 2008 with a special recognition for 'Services to LEAN' award. He has also established strong links with Yorkshire Forward, ARUP and the Airedale Partnership. (AR0809:17)		Bridget Fletcher	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	'The Trust had a very successful year. It put in a strong performance financially, a strong performance operationally, made substantial investments in service improvements and was rated highly by patients for the service it delivered. Airedale is a well-run, agile and innovative Trust with high quality employees and high quality clinical outcomes	Successful performance	No performance issues
Notes on AR T2 (09-10)	The Trust has had another very successful year. It was rated 'Small Trust of the Year' by the Dr. Foster organisation. Operational performance was consistently good. The Trust met the Government's 18 week target three months early and, with one minor exception, met every other major national target set for it. Despite a high and severe level of winter demand, the Trust achieved its A&E four hour target…heavy additional demands on hospitals. The financial consequences of problems in the wider economy will restrict resources available to healthcare, yet, we are able to report to our stakeholders that Airedale is well positioned to meet these challenges. It is a financially strong organisation with a talented and motivated workforce…Airedale has again demonstrated its ability to combine cost and efficiency gains with improved standards of service and regulatory compliance. (08-09:4)	Successful performance	No performance issues
Process			

Service Improvement Approach	T1: Objective: Deliver our financial plan through rigorous financial management and Lean operational activity – operating efficiently, effectively and economically. (p.7). T1: a joint venture in partnership with the Ilkley Virtual College and sponsored by Medipex (Yorkshire & the Humber Innovation Hub) and NHS Yorkshire and the Humber to establish a LEAN Academy to support Airedale and other NHS partners in implementing LEAN methodologies in healthcare to maximise productivity, eliminate waste and improve the patient experience (p.25) T2: Over the course of the past two years, the Trust has been developing its understanding of LEAN and is beginning to reap the benefits in terms of waste reduction, improved quality and contribution to delivering our strategic objectives. Airedale was awarded LEAN organisation of the year and best LEAN project by the LEAN Healthcare Academy. The Trust was also praised for having trained 25% of its staff in LEAN techniques and for its leadership and growing track record of improvement based on front line staff engagement. T2: This year has been another exciting but challenging year for the LEAN Healthcare Academy at Airedale. We have undertaken a record number of projects this year, from very small easy to solve problems such as the maternity computer printouts to really complex pathways involving multidisciplinary teams such as the Pharmacy Project…Despite our successes, the impact is a fraction of what we believe can be realised if LEAN was applied at scale.. Next year we move into a new era where LEAN becomes the enabler for Trust wide transformation programmes. The challenge will be to continue to train people to use their LEAN skills and to put them into practice for the benefit of the patients. (Lean Academy Report 0910:3)	T1: Systemic T2: Systemic	T1: Evidence of strategic alignment alongside a focus on Lean training. The trust has established a Lean Academy in partnership with a local college. T2: 25% of staff trained in Lean; a record number of projects; Lean is to become enabler for trust wide transformation programmes
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			

Areas identified as under transformation	T1: (p.27)We have trained the majority of our managers in the basics of Lean. In addition there are weekly training sessions for all other staff in the varying techniques of Lean. Some of the projects undertaken and completed this year are; **Intra Uterine Growth Retardation (IUGR)** – this project found 22 steps in the process of getting a plan of care for women having a baby suspected to be small for it's gestational age. This was reduced to 3 steps and women are now seen within 24 to 72 hours, instead of 2 to 6 weeks **Colorectal Cancer Fast Track Pathway** – this project reduced the number of patients exceeding the 62 day fast track target from 17 to 2. The diagnosis now takes place much earlier and there is now a single procedure for most diagnoses **A&E** - this project has streamlined the A&E resuscitation room. This will now be applied to the other areas within A&E. **On ward 10**, one of the orthopaedic wards, staff have done significant work to make the ward a better environment both for patients and for staff. **Bereavement services** – this project eliminated the need for thousands of photocopies and moved to an email system so releasing the time the bereavement officer, allowing her more time now to spend with relatives. Projects still underway include; Colposcopy pathway, Pre-operative assessment, Breast and Lung cancer pathways, Diabetic Foot Clinic procedures, Caesarean Section pathway and Cardiology, The plans for 2008/9 are at present to redesign the 18 week patient pathway for all specialties, review the ESR (Electronic Staff Record) system and to work closely with IT to ensure that all IT projects are Lean. In 2008 we have also appointed a new Head of Lean Improvement to lead the delivery of Lean service and cost improvement across the Trust. This post will provide expert advice on Lean service development and provide policies and training and development programmes for all levels of staff. T2: A separate Airedale Lean Academy report (2009-10) highlights training success and many projects		Lots of training and lots of projects throughout T1 and T2.
Interpretation of Lean implementation	T1: Systemic T2: Systemic	T1: Systemic T2: Systemic	

Other Notes	Adam Cairns, currently the head of the Airedale NHS Trust in West Yorkshire, has been appointed to take over the £165,000-per-year post at Shrewsbury and Telford shortly. The former chief executive Tom Taylor left in April to join the Agriculture and Horticulture Development Board in Warwickshire. (BBC News: http://news.bbc.co.uk/1/hi/england/shropshire/8689712.stm accessed 11/11/10) . **Shrewsbury and telford are also identified as implementing Lean		

Case 114

Barnsley Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire and the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Barnsley and Wakefield				
Population/Location Characteristics	an area of multiple deprivation with a significant number of challenging public health indicators. The area has also witnessed an influx of asylum seekers in recent years				The population determines the demand of hospital services
Staff				Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	220,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Sandra Taylor, appointed Oct 2007. She has a special interest in patient centred service redesign and productivity which she led on across Surrey and Sussex (AR0708:34)	Paul O'Connor, Interim Chief Executive, appointed June 2004.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	This has been a productive and successful year for the Trust despite the many challenges that District General Hospitals face in responding to the demands for ever better patient services that are rightly deserved by the public we serve. To respond to these demands we continue to reposition the organisation and review the management capacity of the hospital. The restructuring of the senior management, both administratively and clinically, has been advanced through the year and is nearing completion	Structural change	The trust has restructured senior management to address the demands for 'even better' patient services.
Notes on AR T2 (09-10)	This has been another year of excellent achievement by the Trust, tackling the challenges we face with the enthusiasm and professionalism which is the hallmark of everyone involved here	Successful performance	
Process			
Service Improvement Approach	T1: Cost improvement programme T2: implementation of the "Productive Theatre" and Lean initiatives	T1: None T2: Few projects	Lean initiatives are highlighted alongside PW
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: One of the initial national pilot sites for the Productive Ward project		
Content			
Areas identified as under transformation	T2: Theatres	T2: Few projects	Lean initiatives are highlighted alongside PW
Interpretation of Lean implementation	T1: No Lean T2: Few Projects	T1: No Lean T2: Few Projects	
Other Notes			

Case 115

Bradford Teaching Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire and the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Bradford				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	5000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	April 1 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Miles Scott, appointed august 2005.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	We have had a successful year, being rated as good for the quality of our services and excellent for the use of our resources, in the Healthcare Commission's Annual Health Check…The foundation trust started 2007/08 with a number of significant financial risks, which have been managed effectively through the delivery of our financial position.			Success, recovery	The report highlights that the Trust was facing a number of financial risks as an FT and these have been managed suiccessfully

Notes on AR T2 (09-10)	It has been yet another successful year at the Foundation Trust…The independent Dr Foster good hospital guide this year named the Foundation Trust as having the second lowest mortality rate in the country. The guide also ranked Bradford Hospitals in the top 20 for patient safety after we achieved a patient safety banding of four out of five…Monitor, the Independent Regulator of NHS Foundation Trusts, has given us the highest possible 'green' rating in all four quarters of 2009/10 which is a marked increase on last year's performance.	Successful performance	No issues highlighted
Process			
Service Improvement Approach	T1: The Foundation Trust has a dedicated Performance Improvement team to support services throughout the Trust to deliver measurable improvements in quality, safety and productivity through service redesign. T2: Productive Ward	T1: No Lean T2: PW only	No mention of Lean in T1 and T2
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: PW only	T1: No Lean T2: PW only	
Other Notes			

Case 116

Calderdale and Huddersfield NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Calderdale, Halifax and Kirklees				
Population/Location Characteristics					The population determines the demand of hospital services
Staff				Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	435,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Diane Whittington, appointed April 2001	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	For all of us a major high point in 2007/8 was receiving a double "excellent" rating from the health watchdog the Healthcare Commission. We were one of only 19 trusts in the country to get the top rating for both 'quality of service' and 'use of resources'. Our commitment to providing the very best care for our patients has led to significant changes in the way we deliver our services. A major reorganisation started in 2007 and will continue over the next few years. I am pleased to report that we are already starting to see the benefits of change in surgery with a fall in the number of cancelled operations, reduced lengths of stay for patients and a reduction in infection.			Structural change	A successful year involving a 'reorganisation'

Notes on AR T2 (09-10)	The coming year will, of course, present new challenges - one of the greatest will be making sure we continue to deliver high quality services in a time of financial recession. We have a strong financial track record and have once again reported a financial surplus. This money is reinvested for the benefit of our patients and this year work has started at both our hospitals on new endoscopy units, which will be completed later in 2010.	Successful performance	No issues highlighted
Process			
Service Improvement Approach	T2: Progress in the Quality Improvement Strategy is monitored through the newly formed Quality Improvement Board. Its task is to oversee the implementation of the Strategy as a whole ensuring that it meets both process and outcome goals as the work is spread reliably across the organisation. Each programme of work associated with Safety, Effectiveness and Experience and the Exemplar Ward programme has an executive lead and clinical sponsorship. T2: NVQs in Lean identified in Trust staff Magazine	T1: Few projects T2: Programme	T1: Examples of a few Lean projects are identified via a website search of the term Lean. T2: Adoption of Lean methods identified in annual report and quality accounts alongside Lean training
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: examples of isolated projects using Lean methods dating back to 2007 identified through website search. T2: 'Adoption of LEAN methods' as part of leadership and culture(p.32) PW		
Content			
Areas identified as under transformation	To achieve this we have: • Adopted an approach to improvement that works with frontline staff to design 'small tests of change' that can be applied in a consistent and reliable way before being implemented across the Trust as a whole. 6. Worked with the Lean Enterprise Academy to drive down unnecessary waits in the patient journey	T1: Few projects T2: Programme	T2: working with the Lean Enterprise Academy with a view to implementing across Trust as a whole
Interpretation of Lean implementation	T1: Few projects T2: Programme	T1: Few projects T2: Programme	
Other Notes			

Case 117

Doncaster and Bassetlaw Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire and the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Bassetlaw and Doncaster				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	5500			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	410,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Nigel Clifton	Dr Peter Reading, Interim Chief Executive following death of Nigel Clifton		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	In this Annual Report, we will show how we achieved or exceeded the goals in our fourth year as an NHS foundation trust. Sustained success is due to the efforts, skills and commitment of every member of staff, the objective views of governors and members, and the leadership and influence of the Board of Directors.			Successful performance	No issues reported

Notes on AR T2 (09-10)	During the year we launched our 'Delivering Better Health – Quality & Transformation' programme, called Transformation for short. Twenty-seven projects were identified that would improve quality and/or reduce costs. Our review of services, Ambitions for the Future, was added to this list. Transformation was launched in September with robust quality and financial targets, aiming for cost reductions of £29m. However, in order to make up for the shortfall - £38m was the desired cost reduction target - further projectswere under consideration. All staff vacancies were subject to review.	Finance Focus	The strategic theme is based around quality and financial targets
Process			
Service Improvement Approach	T1: lots of 'redesign' T2: During the year we launched our 'Delivering Better Health – Quality & Transformation' programme, called Transformation for short. Twenty-seven projects were identified that would improve quality and/or reduce costs. Our review of services, Ambitions for the Future, was added to this list. Transformation was launched in September with robust quality and financial targets, aiming for cost reductions of £29m. However, in order to make up for the shortfall - £38m was the desired cost reduction target - further projects were under consideration. All staff vacancies were subject to review. …The aim is to redesign pathways to deliver appropriate high quality patient-centred care at the right time, in the right place and of a clinically appropriate duration for the patient	T1: PW only T2: No Lean	T1 and T2 both resonate with Lean principles and methodology however the use of Lean is not explicitly stated.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Productive ward T2: No mention of Lean but echoes of Lean philosophy. Google hospital name + Lean identifies work with the Lean Enterprise Academy in 2008		
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: PW only T2: No Lean	T1: PW only T2: No Lean	
Other Notes			

Case 118

Harrogate and District NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire and Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Harrogate and Rural District and also to the residents of Ripon and Wetherby and surrounding area				
Population/Location Characteristics					The population determines the demand of hospital services
Staff				Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	200,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st Jan 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	John Lawlor, Appointed 1st January 2006 - a varied background, first class degree in statistics.	Richard Ord, Richard has also taken the lead role in taking forward the performance agenda for the organisation. He has played a key role in delivering the challenging objective of reducing waiting times and improving standards of care within the trust, and has made a significant contribution to the organisation in helping to achieve high standards in the Healthcare Commission Annual Healthcheck for both quality of services and use of resources.		Change	Change of CE during data collection period

Culture and Strategy (From Annual Report Summary by CE & Chairman)			
Notes on T1 AR (07-08)	the financial year 2007 / 08, one of outstanding performance both financially and operationally I am pleased to say therefore that the trust continues to maintain a strong, patient-centred performance and also a secure financial position, expressed in terms of a risk rating of 4 awarded by Monitor, the Independent Regulator of NHS Foundation Trusts (Monitor), and judged by the Healthcare Commission as 'Good' and 'Excellent' respectively – thus providing external opinions on our robust, successful and ambitious service to patients.	Successful Performance	No issues reported
Notes on AR T2 (09-10)	celebrating another year of excellent operational and financial performance	Successful Performance	No issues reported
Process			
Service Improvement Approach	T1: Productive ward (early) as described in Annual plan: 'Wensleydale Ward has been chosen as a Productive Ward Learning Partner and over a 10 month period will be collecting information on the ward processes in order to monitor the effectiveness of the care given to patients. The Information Services Department has designed a database to monitor the progress of the ward against a number of key measures such as patient observations, number of falls and pressure sores, staff and patient satisfaction and bank and agency use. The database allows for monthly updates to be provided on performance against these measures and it is the intention that an update will be displayed on key performance indicator board at the entrance to the ward to enable patients and visitors to view ward performance. On completion of the pilot project on Wensleydale Ward, the programme will be rolled out to all the wards at HDH. The full programme will take two to three years to fully implement and will be a major focus for the Trust, contributing to delivering the Patient Experience Strategy.' T2: Reengineering work at ward level to include the Productive Ward - Releasing Time to Care project - will continue with the focus on creating more direct contact time between patient and nurse as a result of streamlining procedures and systems. (QA:0910) The Director Team has now established their priorities for Organisational Development across the Trust. A project reviewing and improving the discharge process using the principles from the Lean Programme and involving Lean Champions will support improving the process of delivering efficiencies in this area. A number of training and development programmes have been introduced as cost-effective tools for preparation for self development in leadership skills and will continue to be delivered across the Trust. (AR 0910:96)	T1: PW only T2: Few projects	T1 describes PW only T2 describes a few Lean projects
Elements of Lean? (RIEs, PW, waste elimination etc)			

Content			
Areas identified as under transformation	T1; Wards T2: A project reviewing and improving the discharge process using the principles from the Lean Programme and involving Lean Champions will support improving the process of delivering efficiencies in this area. A number of training and development programmes have been introduced as cost-effective tools for preparation for self development in leadership skills and will continue to be delivered across the Trust. (AR 0910:96)	T1: PW only T2:Few projects	
Interpretation of Lean implementation	T1: PW only T2: Few projects	T1: PW only T2: Few projects	
Other Notes			

Case 119

Hull and East Yorkshire Hospitals NHS Trust				
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire and the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Hull and East Yorkshire				
Population/Location Characteristics	Hull was identified as one of the most deprived local authority areas in 2007 (index of Multiple Deprivation) whereas the East Riding profile is more affluent with the population in this area growing at a faster rate than the national average, the growth in the number of older people being a particular feature. The two populations have different health needs which the Trust must meet. These include improving teenage pregnancy rates, deaths from smoking, heart disease and cancer in Hull to road injuries and deaths in East Yorkshire.			Deprived area	The population determines the demand of hospital services
Staff	7000			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	600,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Mr Stephen Greep	Mr Phil Morley - Chief Executive		Change	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	This was a very significant year for our Trust which saw us further improve the quality of care that we deliver to our patients. Not only did we treat more patients than ever before, but we also increased our facilities and the numbers of clinical staff we employ. We delivered a strong financial outcome and improved our performance against the Healthcare Commission Standards as well as many national key targets. Our hospitals are amongst the cleanest in the UK and our infection rates significantly reduced. We received much recognition for our efforts with a raft of national and regional awards and these are highlighted in the report…The Trust Board has been working hard in developing a long-term Integrated Business Plan which will help us to define our strategy for providing high quality healthcare to our population well in to the future. We have also re-defined our Trust vision and values and created a new brand for the organisation, all of which we believe will help us to improve our services over the next few years (p.3)	Success, recovery	This was a successful year for the trust but here is a sense of recovery in terms of performance. This resonates with the performance scores which show that he Trust was given a score of weak/fair in 2006/07.
Notes on AR T2 (09-10)	There have been a number of changes within the Board over the last year. (p.4)	Change, uncertainty	There has been considerable change in the executive board, including retirement of the Chief Executive
Process			
Service Improvement Approach	T1: The Trust continues to look at ways to improve efficiency within the organisation and has an agreed Value for Money strategy that sets out the processes to be followed both in the short and long term.	T1: No Lean	No evidence of Lean
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: No Lean	T1: No Lean T2: No Lean	
Other Notes			

Case 120

Leeds Teaching Hospitals NHS Trust						
Construct	Data Collected				Categorical interpretation	Rationale
Context (external)						
SHA	Yorkshire and the Humber				YH	
Context (Internal)						
Physical Attributes, Structure						
Area Served	Leeds					
Population/Location Characteristics						The population determines the demand of hospital services
Staff	14000				Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	720,000					
Trust Performance						
Foundation Trust Authorisation	T1	T2			No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09			Performance not categorised
	Fair	Weak	Fair			
Use of Resources (CQC)	2006/07	2007/08	2008/09			
	Weak	Fair	Fair			
Leadership						
Chief Executive (name and background)	T1	T2				
	Maggie Boyle, appointed May 2007	Same			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)						
Notes on T1 AR (07-08)	Within the organisation, a major priority was to undertake a review of our senior management structure, to make sure the Trust has the right senior managers in place to run one of the most complex organisations in Britain. That work is now complete and we are confident the changes will help us function as a more dynamic, patient focused organisation.' 'The Quality of Services rating was automatically assessed as 'weak' because of our failure to meet three key national targets, relating to cancer waiting times, cancelled operations and breaches of the 26-week inpatient waiting target. (p.12)				Change, structural	There has been changes in the organisation with regard to line management and organisational structure

Notes on AR T2 (09-10)	One of the achievements we are most proud of is the work to deliver the Trust's aim of centralising key services in one location, to make the most of staff expertise and improve the patient pathway. (p.4)	Change, structural	The report continues to highlight structural change
Process			
Service Improvement Approach	T2: Our major change programme, Managing for Success, will improve the Trust's finances, enhance the quality of care and ensure that we provide services which are designed to meet the expectations of our patients. This was launched in September 2009, is the Trust-wide "Lean-based" programme which sits at the heart of our aim to be a more people-centred and more productive organisation. This approach to tackling what is recognised as the most significant and challenging period of transition in the history of the Trust is based on working in partnership with staff and their representatives. We aim to engage everyone in the pursuit of quality and efficiency and the overarching goal of excellence in everything the Trust does. We know that over the next few years Leeds Teaching Hospitals will face significant challenges against a backdrop of a difficult economic situation nationally and public spending cuts. (p.26)	T1: PW only T2: Programme	The trust clearly identifies a 'Lean- based' programme in its annual report
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Productive ward rolled out to 12 wards (see attached bulletin p.3 for details)		
Content			
Areas identified as under transformation	T2: During 2009/10, whilst laying the foundations of our transformation programme, we have focused on the two key elements of the workforce agenda - cost control and modernisation - linked to the wider improvements which are being delivered via Managing for Success. There has been some real progress in controlling these costs, but levels of bank and agency usage and sickness absence remain of concern and are a priority going forward. We are rolling out a new electronic rostering system, which will be key to improving productivity. T2: Managing for Success schemes will make a contribution during the year but due to **the long term nature of the programme** a short term plan to find the full £40 million has been presented to and approved by the Board. Our savings target of £40 million in 2010/11 will mean difficult decisions having to be faced but delivering excellent patient care in a safe environment remains our overriding concern. There is a clear commitment to improving efficiency and doing "more for less".	T2: Programme	Further evidence that the Trust has adopted a 'programme approach during T2.
Interpretation of Lean implementation	T1: PW T2: Programme	T1: PW T2: Programme	
Other Notes	The Trust is currently the largest in England		

Case 121

Mid Yorkshire Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Wakefield District and North Kirklees				
Population/Location Characteristics					The population determines the demand of hospital services
Staff				Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Julia Squire	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	T1: It was the first year ever that we balanced our books when we reported a break-even position in our accounts in March 2008. We were proud to have achieved this at the same time as continuing to make improvements to our services and focusing on reducing our waiting times. (p.6) One of the obj.'s for 2008: 'Improving the processes and systems we use in our hospitals to reduce waste and eliminate delay'			Success, recovery	The trust has successfully balance the books at the same time as improving services.

Notes on AR T2 (09-10)	it's been a year of great achievement, of celebration and of change at Mid Yorkshire…We have made considerable changes in how we provide our services, where we provide them and how we work together. We've also made real improvements in standards of patient care, safety and experience as well as in the working lives of our staff. Looking forward, 2010/11 could be considered the most momentous year in the history of the Trust and the local NHS - with the completion of moves into our new hospitals, which will join our excellent modern hospital at Dewsbury, to transform healthcare for local people. (p7) 2009/10 was a really challenging year for us as we put in place a number of key new projects, programmes and new systems to make the way we do things more efficient and improve patient care and experience.	Change, uncertainty	A successful year amidst lots of change that may have been quite unsettling for staff
Process			
Service Improvement Approach	T1: The achievement of in-year break-even was underpinned by the second year of the Trust's 'Turnaround' programme. This is a series of income, cost and productivity improvement initiatives which support changes to how we work. (70) T2: Recognising the need for transformational change, the Department of Health established the Quality, Innovation, Productivity and Prevention (QIPP) programme to concentrate on improving productivity and eliminating waste while focusing relentlessly on clinical quality. In early 2010, we launched MY QIPP programme to ensure that each pound we spend is focused on maximising the quality of healthcare we provide and on improving the experience of our patients. Our QIPP programme looks at two main areas – clinical excellence and enabling efficiency. These are then made up of a series of individual work groups each focused on an important area. (p.29) T2: We put in place an innovative 'patient flow' system. This new system allows our ward staff and managers in inpatient areas to see, 'at a glance' from any computer, how many beds we have occupied across our hospitals. It also provides other key information such as the patient's gender, the expected date the patient will be discharged from hospital and from which specialist area. This means that they have a complete picture across the Trust to make decisions about new patients and can ensure they are admitted to hospital more quickly and appropriately.		An echo of Lean: 'patient flow system'

Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Member of Airedale's LHA - talk about a 'leaner' workforce; 'leaning and development' is one of core values and behaviours T2: We have set up a project board to implement the productive ward initiative across all our hospitals, starting with Dewsbury and District Hospital. This initiative is a series of tools and approaches that, when implemented on a ward, release staff to spend more time caring for patients rather than being tied up carrying out other duties. We will update on our progress with these initiatives in next year's report.	T1: Tentative T2: PW	A tentative link to Airedales's Lean Academy suggests that Lean may be 'Tentative' in the Trust
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: Tentative T2: PW only	T1: Tentative T2: PW only	
Other Notes			

Case 122

Northern Lincolnshire and Goole Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Northern & Yorkshire Region				
Population/Location Characteristics	Rural and coastal, small market towns				The population determines the demand of hospital services
Staff	6700			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	385,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st May 2007				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Excellent	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Andrew North, joined North East Lincolnshire NHS Trust in April 1997 as Chief Executive	Karen Jackson		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	'When reviewing our performance 'in the round' we believe 2007/8 was a highly successful year for the Trust			Successful performance	No issues highlighted
Notes on AR T2 (09-10)	'When reviewing our performance 'in the round we believe 2009/10 was a highly successful year for the Trust;' (AR0910:6). 'Throughout the year the Trust has sought to build on the strong foundations established in earlier years of both a sound financial footing and high quality services, and to give a real emphasis to simultaneously improving quality whilst delivering value for money.			Successful performance	No issues highlighted
Process					

Service Improvement Approach	T1: The Trust "Lean" project commenced in December 2007 with personnel from the US based Lean Consultancy (Argent Global)… This industry proven approach has already resulted in significant improvements both in terms of service efficiency and cost effectiveness in services such as Histology and Blood Sciences. The intention is now to develop this work further into the Trust with work already starting and making progress in Theatres, Surgery and Patient Administration and soon to extend to areas such as Radiology and Medical Staffing. Argent help our own staff look critically at existing working patterns and apply "Lean" methodology to reduce areas of waste and non-value adding activity. Key to success will be training our staff in the Lean techniques so that they apply the methods themselves and own the more efficient working practices. A dedicated training facility has already been developed within DPOW Pathology to allow Trust staff to both train and access clinical areas to achieve immediate improvements. T2: 'Path Links' has undertaken a major overhaul of its quality and governance arrangements following the appointment of a Lean & 6-Sigma Specialist. Targeting Lean implementation across the whole of the organisation, the delivery of enhanced levels of service quality and performance is the overriding focus of the Division. Management arrangements have similarly been overhauled with the introduction 'A3' thinking and performance management.	T1: Programme T2:Systemic	The report identifies a 'project', however as the 'project' appears to be trust wide and there is a sense that the project is 'owned' by the trust rather than an isolated project, the approach should be categorised as 'programme' Evidence that the 'programme' has advance to 'systemic' approach due to the appointment of a Lean specialist and a whole organisation approach.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Lean assessments in a number of areas both within Pathology and into the wider hospital community (Theatres, Surgery and Patient Administration). Path Links have already benefited from a number of successful projects in Histology, Blood Sciences and Microbiology and these same principles will now be applied elsewhere within the Trust using the newly created "Lean Academy" within Pathology in Grimsby as the training area. The Grimsby Blood Sciences facility has been designed around Lean "Work Cell" principles and utilizes 2 mirrored and fully integrated Haematology and Chemistry work cells with highly automated robotic specimen handling front ends. T2: PW		
Content			

Areas identified as under transformation	T1: Pathology; theatres; histology; Blood sciences; Patient administration... T2: The centralised Histopathology service in Lincoln has radically transformed its operations through the implementation of LEAN thinking and working practices. This has lead to greatly improved productivity levels and quality of service as evidenced by: • 45% Reduction in Turnaround Time (TaT) • 60% Increase in Productivity • 53% Increase in Efficiency • 98% Reduction in Errors Similar improvements have been made in Cytology whereby the service far exceeds the requirement to meet the national standard of a maximum 2 week TaT for cervical cancer screening. In Lincolnshire, all such tests are reported in less than 1 week.		Lots of projects identified
Interpretation of Lean implementation	T1: Programme T2: Systemic	T1: Programme T2: Systemic	
Other Notes			

Case 123

Rotherham NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3460			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	252,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st June 2005				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Mr Brian James, Appointed – February 2005: 'a strong personal interest in international health systems and management'	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	'The unique business model of the Trust, which combines autonomy, incentives and enablers is now demonstrably successful and will be further developed through the progressive establishment of Foundation Units… 2007/08 has been a landmark year for the Trust and one in which our new structures, systems and organisational development programmes began to clearly differentiate the Trust from others, and produced the best results ever experienced in the history of the organisation.I [CE] really enjoyed meeting the staff taking part in the Rapid Improvement Events over the year. It was really good to see the satisfaction that staff take from being given the opportunity to take control of their working area and improve things for patients as well as themselves. Some truly innovative ideas came out of the events like the 'do not disturb' jackets worn by staff doing drug rounds to speed up the delivery and reduce the risk of mistakes'	Successful performance	No issues highlighted
Notes on AR T2 (09-10)	Looking forward we know changes in government funding mean we must be fit to operate within tighter financial constraints. The Trust is well placed to adapt and face the challenges posed by these changes without compromising on quality of care.	Successful performance	No issues highlighted
Process			
Service Improvement Approach	T1: A series of RIE's. RISE (Rapidly Improving Services for Everyone) programme. As part of the programme, staff from individual departments, or staff who are cooperatively involved in providing a service, come together for a week at a time to find new ways to improve the services they provide. T2: Lead by the Service Improvement Team over the last year staff at the Trust have been actively involved in developing processes and plans for a more productive operating theatre process, productive office and admin areas and also the benefits tracker tool which is a new system for measuring improvement across the Trust. (p.18) T2: Achieving efficiencies and delivering quality is an essential part of all roles within the Trust and staff have been actively involved, through formal consultations, improvement events and the Save and Secure campaign, in helping the Trust to generate ideas on working differently to become more efficient, reduce waste and make savings whilst at the same time improving services to patients. (p.19)	T1: Programme T2: Few projects	The trust has implemented a programme based on Lean methodology T2: The RISE programme is not identified in the report, rather it seems that a 'few projects' approach has been adopted.

Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Lots of case studies and staff reflections on RIEs contained in AR… High media profile, focus of Can Gerry Robinson Fix the NHS and Can Gerry Robinson Fix the NHS - one year on		
Interpretation of Lean implementation	T1: Programme T2: Few projects	T1: Programme T2: Few projects	
Other Notes			

Case 124

Scarborough and North East Yorkshire Healthcare NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Scarborough, Whitby, Ryedale and Bridlington				
Population/Location Characteristics	In the summer the pressure on the Trust increases enormously with the population doubling due to the influx of tourists. It is a demographic hotspot, with large numbers of people retiring to the area resulting in a high proportion of elderly residents, with attendant healthcare needs…complexity of contrasting populated and isolated geographical areas. The diverse range covers the seaside resorts of Bridlington, Scarborough, Filey and Whitby, and the huge rural areas of the North York Moors and East Yorkshire Wolds.			Tourist	The population determines the demand of hospital services
Staff	2400			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	225,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2		FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Weak	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Weak	Fair		
Leadership					
Chief Executive (name and background)	T1		T2		
	INTERIM CHIEF EXECUTIVE Christine Green; Many exec directors are 'interim' DIRECTOR OF PLANNING AND OPERATIONS Denise Potter Prior to her appointment as Director of Operations, Denise was Turnaround Director for the Trust		Richard Sunley, joined Feb 2009 from Cambridge University Hospitals NHS Foundation Trust where he was director of operations	Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	It has been a year of tremendous challenge and change, with many successes and, of course, plenty of learning points too. (p.2) The Trust has gone through a period of substantial deficits and received a public interest report from its auditors during this time 2007/08 has been a year in which a successful start has been made with the turnaround of the organisation..(p.4)	Crisis	The trust received a public interest report. Performance has been weak/weak for two consecutive years.
Notes on AR T2 (09-10)	It's been a roller coaster year with many ups and downs, but we have achieved a great deal and, more importantly, we can see real differences for our patients. Achieving a £2million surplus this year means we have met our financial obligations for 2009/2010. With the management changes in place this year, we have been able to have tighter budgetary control and this improvement continues. We have placed significant emphasis this year on patient safety and, as a result have seen improvements in mortality rates and in rates of MRSA and C. Diff.	Success, recovery	There are some signs of recovery
Process			
Service Improvement Approach	T1: Cost Improvement Programme and Turnaround Plan T2: we have launched our Fit for the Future programme, which is an organizational change programme to achieve long term service and cultural changes. Short term measures have achieved improvements, but if the Trust is to deliver health services which are fit for purpose in the future, transformation is needed. (p.2)		
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: Business Plan states an objective to implement Productive Ward. Evidence from Airedales Lean academy blog that Scarborough are in fact conducting Lean projects. T2: evidence of PW from news archive	T1: Tentative T2: PW only	
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: Tentative T2: PW	T1: Tentative T2: PW	
Other Notes			

Case 125

Sheffield Teaching Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics					The population determines the demand of hospital services
Staff	13,500			Large	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	July 1st 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Andrew Cash, since 2001.	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	one of the largest and most consistently high performing NHS foundation trusts in the country. Once again it has been a successful year which reached a pinnacle when we were awarded a double excellent for quality of services and use of resources in this year's Annual Health Check			Successful Performance	No issues highlighted.

Notes on AR T2 (09-10)	'Each year we build on our vision and priorities to ensure we provide high quality health services to our patients and create an environment where staff are empowered to explore new, creative ways of working for the benefit of patients.' (p.7). 'We were one of only a handful of Trusts nationally to achieve a double rating of excellent for 3 consecutive years…we look forward to the coming year when we will continue to implement our 'Excellence as standard' corporate strategy. The strategy has a drive for quality at the heart of everything we do and builds on a history of improvement and innovation.'	Successful Performance	No issues highlighted.
Process			
Service Improvement Approach	T1: productive Ward, also noted in the AR is a 3 year efficiency improvement programme of which the Trust is in its last year: "We are now at the end of the second year of our three-year change programme, which focuses on improved patient care and better value for money for the taxpayer. There are many strands to the programme but essentially it is about cutting out unnecessary waste." T1: 'Adding Value Programme' an operational improvement programme launched in 2006/07 to deliver productivity and efficiency savings over three years to 08/09…By cutting out unnecessary steps in the patient pathway, we can reduce the number of attendances, making the system better for the patient, and more efficient and cost effective. (p.19) T2: The Trust continues to drive enhanced productivity and efficiency through targeting areas for improvement and developing capability and capacity to deliver the required change. A key principle of the programme is to seek improvements to patient care alongside productivity and efficiency gains. The Trust employs a number of approaches to ensure best value for money in delivering its services. Benchmarking is used to provide assurance and to inform and guide service re-design leading to improvements in the quality of services and patient experience as well as financial performance. External consultants are commissioned to undertake reviews where the Trust believes economy, efficiency and effectiveness can be improved.	T1: PW only T2: No Lean	The trust has efficiency improvement programmes during T1 and T2 but not explicit reference to Lean. 'Cutting out unnecessary waste' echoes a Lean approach.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			

Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: PW only	T1: No Lean T2: PW only	
Other Notes			

Case 126

York Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	Yorkshire & the Humber			YH	
Context (Internal)					
Physical Attributes, Structure					
Area Served	York				
Population/Location Characteristics	'The situation locally in North Yorkshire continues to be one of a financially challenged commissioner working to both reconfigure services and improve clinical pathways to provide the most effective services it can within the resources available. The Foundation Trust is actively supporting this agenda and full recognises the part it plays in delivering the highest quality healthcare services it can for the residents of North Yorkshire and beyond.' (AR0910:9)				The population determines the demand of hospital services
Staff	4,561			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2		FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak		Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent		Good		
Leadership					
Chief Executive (name and background)	T1		T2		
	Patrick Crowley Interim. Patrick has worked with the York Hospitals NHS Trust since 1991 in a variety of finance and performance management roles prior to his appointment to this role in 2001. He previously worked for the Ministry of Defence and in private sector industry		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					

Notes on T1 AR (07-08)	The Trust's cash position during the year remained very robust, and was exceptionally high at the end of the year, as the PCT paid over in March, cash due in April.	Finance focus	The statement is focused around finance
Notes on AR T2 (09-10)	Despite the difficult environment in which we are operating we have achieved the best performance indicators that this organisation has ever seen, and we are proud of this achievement… We have begun to focus more on recognising and rewarding staff, both for long service and for individual and team achievements (p.10)…you will see in this report that the overall reported position is a £5.5m deficit. This includes a small number of technical adjustments that have been agreed with external auditors. Stripping away these technical issues the underlying balanced position is disappointing given the Trust's expectations of creating a £1m surplus to supplement our capital programme. We now face further pressure on the capital programme as a direct result of not delivering the surplus. This will prove very challenging given the many and varied calls on the Trust's capital programme… We have now seen the financial and performance framework we shall be working with next year and it is every bit as challenging as we anticipated, with the Trust facing a collective reduction in our finances of some £10m. The only way to secure our services and further develop these going forward is to live within our means and further develop those means by exploiting the real income potential that many of our excellent services offer both locally and nationally (p.11).	Finance focus	The statement is focused around finance
Process			

Service Improvement Approach	T1: The focus of service development and improvement has expanded from the concentration largely on issues of flow and access across patient pathways to embrace quality, safety and patient outcomes. (p.5) T2: The Trust will continue to take part in and learn from national initiatives such as the safer patient initiative, choose and book, agenda for change, the productive ward, the rollout of patient-reported outcome measures and the strategic development of the local health community. (p.9) T2: The organisational development and improvement learning team focus on the development of services, teams and individuals within the organisation. The team have worked with colleagues across all directorates in the organisation to find the best way to help develop staff and improve performance. The positive impact of the team has resulted in increased requests for support	T1: PW only	Evidence of PW only in T1 and T2.
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: productive ward		
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: PW only T2: PW only	T1: PW only T2: PW only	
Other Notes			

East of England

Case 127

Basildon & Thurrock University Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served					
Population/Location Characteristics	The growing number of elderly people requiring hospital admission was a significant factor influencing the Trust's performance during the year. Number of emergency admissions of over 75 rose by 9.3% in winter 07-08 (AR0708)			Growing Elderly population	The population determines the demand of hospital services
Staff	4000			Medium size	
Catchment Population	310,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT T1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2004				
Quality Score (CQC)	2006-2007	2007-2008	2008-2009		
	Fair	Fair	Good		
Finance Score (CQC)	2006-2007	2007-2008	2008-2009		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Alan Whittle, since 2003, previously COO	Same		Stable	No change since 2003
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	Basildon and Thurrock University Hospitals NHS Foundation Trust is widely recognised as a high performing organisation, having achieved the maximum three stars in the Government's star ratings system in every one of the five years that the system operated…This year the Trust achieved 'Excellent' once again for use of resources although the quality of services was assessed as 'Fair'. The Trust missed a 'Good' rating by the narrowest possible margin, which was very disappointing. (AR0708:10) The CEO reports: This is the fifth annual report that I have had the privilege to introduce since my appointment as Chief Executive to the Trust. Every year I find myself commenting that we have had our best year so far. However, I do truly believe that 2007-08 will be regarded in the future as a momentous year in the growth and development of this organisation as an NHS Foundation Trust. The pages that follow describe some historic achievements.			Performance issues	The chairman states the trust is widely known as 'high performing' but there seems to be some suggestion that this is not the case any more: a 'disappointing' assessment and talk of achievements that 'may be overshadowed' cast doubt on the performance of the hospital during T1.

	Although they may be overshadowed in the future, I believe they should truly be applauded, and provide a source of great pride for the many thousands of people who work here and have made them happen. (AR0708:7)		
Notes on AR T2 (09-10)	Media Controversy: 'a background of Regulatory concern from the newly formed Care Quality Commission and, through them, from Monitor. We have worked closely with both parties to address their regulatory concerns and used the opportunity to ensure our Governance meets the highest standards. This has involved planning to strengthen our Clinical leadership across the Trust and implementing detailed Action Plans to address detailed operational and governance issues. It would be very easy to be despondent about the level of attention the Trust has received from both these and other regulators which has severely dented our reputation but, despite the adverse publicity, patients continue to choose Basildon as their preferred place for treatment and give glowing testimonials when they have been here. They have shown a high degree of support for the staff that treat and care for them and this has been greatly appreciated at times when the media have been keen to only recognise and then exaggerate any shortcomings.' (AR0910:7) ***Media controversy about cleaning and hygiene in A&E.	Crisis	A 'crisis' situation where independent regulator has stepped in to resolve.
Process			
Service Improvement Approach	T2: 'A year in which many service improvements were achieved by a number of departments was over-shadowed by the regulatory intervention taken in October by the Care Quality Commission, and in November by Monitor.'	No Lean	
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: A number of ward upgrade programmes but no connection with Lean (T1) Lean Principles to improve efficiency and effectiveness is listed as a main theme of the Trust's strategy for 2010 (AR0910:19)	Ward upgrades, no lean	
Content			
Areas identified as under transformation	Developing pathways for seamless integration is a main theme. The Trust needs to recover from a significant dent in its reputation.		
Interpretation of Lean implementation	T1: None T2: Tentative…(crisis)	T1: No Lean T2: Tentative	
Other Notes	15 consecutive years of financial surplus (T1)		

Case 128

Bedford Hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England				
Context (Internal)					
Physical Attributes, Structure					
Area Served	Bedford				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	2400			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	260,000				
Trust Performance					
Foundation Trust Authorisation	T1		T2	No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Weak	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Fair	Fair		
Leadership					
Chief Executive (name and background)	T1		T2		
	Jean O'Callaghan, began in sept 05 from NZ, has 'extensive experience of managing change'		Lisa Hunt took up the role of interim chief executive in August 2010 having previously worked as chief operating officer at the Trust since 2006. Lisa also introduced the Trust to Lean	Change	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (07-08)	The Trust has submitted its application for FT to Monitor. Cost savings tone: 'Staff at all levels across the Trust have made strenuous efforts to identify and deliver savings and increased income during the year. The Trust had an ambitious programme of cost savings for 2007/08 and around 80 per cent of the £8.2 million planned savings were delivered in-year.' (AR0708:8)			Finance focus	The message from the Chief Executive focuses on the need to save money
Notes on AR T2 (09-10)	The Trust's financial performance was not as good as had been planned for at the start of the year, but reflected the costs of delivering much higher levels… The Trust was delighted to leap from a 'weak' score for quality in the 2008 Annual Health Check to a score of 'good' in the 2009 ratings…The Trust's rating for use of resources was maintained at 'fair'. The Trust is striving towards a score of 'excellent' in both categories.' (AR0910:7-8)			Finance focus	The message from the Chief Executive focuses on the need to save money
Process					
Service Improvement Approach	T1: 'managers review literature, attend events and network to learn from good practice. An example is the link with Bolton Hospitals on lean			T1: Tentative	Managers are exploring the use of Lean in healthcare

	processes.' (AR07/08:37)		
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Lisa Hunt (Interim CEO) introduced the 'Lean' initiative to Bedford, and through this, has encouraged departments to improve their efficiency and patient experience reviewing their systems (Source: http://www.bedfordhospital.nhs.uk/RunScript.asp?page=8249&p=ASP\Pg8249.asp accessed 6/9/10) PW.	T2: Few Projects	
Content			
Areas identified as under transformation	T2: The Trust has used Lean methodology, to improve services for patients (including the eradication of waiting times for plain film x-rays). (AR0910:24). PW also.		
Interpretation of Lean implementation	T1: Tentative T2: Few Projects	T1: Tentative T2: Few Projects	
Other Notes			

Case 129

Cambridge University Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Cambridge and Peterborough				
Population/Location Characteristics	The economic success of the Cambridge sub-region has made it one of the most attractive places to live and work in the UK. 'Around 47,000 new homes will be built in the area in the period up to 2016 and around 70,000 new jobs will also be created in the period up to 2021. This rate of growth is around four times the national average and will have a significant impact on the requirement for health and hospital services.' (Source: Trust Profile, Sept 2010)			Population growth	Growing population increases demand for hospital services
Staff	7000			Large	
Catchment Population	500,000				
Trust Performance					
Foundation Trust (FT) Authorisation	T1	T2			
	1st July 2004			FT1	FT status means that the Trust has passed a rigourous assessment in order to gain greater operational and financial freedom
Quality of Service (CQC)	2006-2007	2007-2008	2008-2009		
	Good	Excellent	Excellent		
Use of Resources (CQC)	2006-2007	2007-2008	2008-2009		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Dr Gareth J Goodier	Same		Stable	
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'This year we have put into action the strategy which we developed to fulfil our local and regional roles. Our overall theme is innovation and excellence…' (AR0708:5)			Successful performance	Unambiguous communication of trust strategy, no performance issues identified
Notes on AR T2 (08-09; 09-10)	'In September 2009, we launched our patient safety strategy, emphasising patient safety as central to CUH's values and our major priority. We were delighted to be placed second in Dr Foster's national ratings on patient safety.' 'The financial year has also been a considerable challenge. Senior managers and clinicians have worked together to deliver safe services whilst retaining a financial risk rating of 3. Following budgetary retrenchment we have ended the year with an operating loss of £3.4m' (AR0910:7) 'CUH's strategy and priorities continue to develop and now include a greater focus on the quality of services, efficiency and performance, and financial planning in line with expected changes in the level of NHS funding.'			Performance issues	Despite 'excellent' CQC scores the trust delivered an operating loss.

	(AR0910:11)		
Process			
Service Improvement Approach	**T1: 'Delivering more effective patient care** is the focus of a Trust-wide programme of work to encourage better use of resources, shorten the patient pathway, improve overall operational performance and ensure quality of patient care. Already the project has reduced the length of stay by the equivalent of 49 beds' (AR0708:10) Introduction of a Leadership Academy (AR0708) T1: two pilot programmes, the *Perfect Ward*, and the *Productive Ward*, to look at different ways of providing care, with more time spent with patients. T1: The 'minutes' of a meeting held on 16th September 2008 identify the use of 'Lean Thinking' around discharge planning. Lean Thinking is described as 'ensuring that staff and facilities such as pharmacy were where they needed to be at the right time, with the aim of mapping where the delays occurred.' (p.8) T2: A few projects identified through a website search	T1: Few projects T2: Few projects	The trust wide programme resonates with Lean principles although there is scant reference of Lean in the report, except PW. A website search reveals archived 'minutes' referenceing a few lean projects during T1 and T2.
Elements of Lean? (RIEs, PW, waste elimination etc)		PW, projects	Only a couple of Lean projects are mentioned in T1
Content			
Areas identified as under transformation	T2: A few projects identified through a website search	T2: Few Projects	There is no ascension of lean activity in T2
Interpretation of Lean implementation	T1: Few Projects T2: Few Projects		
Other Notes			

Case 130

Colchester University Hospital NHS FoundationTrust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	North East Essex				
Population/Location Characteristics	A large town & rural population. Small pockets of social deprivation, the town of Colchester is largely affluent with low unemployment and above average life expectancy. Two key demographic issues facing the Trust are the significant general population growth in the Colchester area and the ageing population in the Tendring district. (AR0809:5)			General population growth	The population determines the demand of hospital services
Staff	3383			Medium size	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	340,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st May 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance, not categorised
	Good	Excellent	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Good	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Peter Murphy, retired Sept 2010 after 6 years as CE	Dr Gordon Coutts, September 2010		Change	The CE changed during the data collection time period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'Performance of the Trust has significantly improved since 2006 when £15.1m debt and were looking to see how 'service improvement' could enhance the Trust's capacity			Success, recovery	The trust has faced financial difficulties but service improvement appears to represent the trust's strategy.
Notes on AR T2 (08-09; 09-10)	Much of 2009/10 was overshadowed by the Trust's poor performance during the final quarter of the previous year (January to March 2009) which led ultimately to intervention by Monitor in November. The Trust analysed the reasons for this unacceptable level of performance and			Crisis.	Intervention by the independant regulator for FTs, Monitor.

	concluded that the main cause was a lack of capacity in terms of beds and staff. Even before 2009/10 began, we were putting plans in place to improve performance, and in November Monitor acknowledged that some progress had been made from the start of the year but called for this to be accelerated. … The Trust is now placing patient safety, improved outcomes and the quality of patient experience even more firmly at the heart of all that we do. (AR0910:8)		
Process			
Service Improvement Approach	T1: Evidence of a strategy for a 'a significant change programme that is delivered in a relatively short time frame', Lean is mentioned as an example (Board minutes 26th June 2008) From the Trust's Integrated Business Plan released March 08 for period 08/09-12/13): 'Whilst clearly a focus on cost reduction is to be maintained, to deliver long-term sustainable savings the Trust recognises that it will need to fundamentally review all its working processes, both clinical and non clinical. Incremental changes over the years have led to systems becoming inefficient. To that end the Trust believes that the implementation of the principles of Lean Thinking will help deliver the required efficiencies. Funding of £200,000 per annum for two years has been planned for external consultancy to embed the principles of Lean within the organisation and an internal project team will be funded recurrently over the period of the plan.'	T1: Programme	A budget is allocated and an external consultancy is tendered to help the Trust become Lean. This is a planned programme of activity.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: Programme T2: No Lean	T1: Programme T2: No Lean	
Other Notes	Paid back historic debt of £15 million in 2 years to produce surplus Monitor Intervention: 'In the period from December 2008 to March 2009 performance in the Trust against a number of national standards was poor. This included significant problems in achieving the four-hour A&E 98% standard and the 18-week referral to treatment standard for admitted patients. These failings exposed weaknesses in the operating systems of the Trust and inadequacies in preparedness and capacity planning, underpinned by poor information systems and analytical capability. As a consequence of these issues, Monitor became involved with the Trust in reviewing performance and governance arrangements. While the Trust demonstrated good progress in addressing the specific issues with the four-hour A&E and 18-week standards, during the early part of 2009/10 a number of other concerns were	T2: Crisis	More details of the crisis

	identified by the regulator, including concerns regarding the pace of improvement and the engagement and leadership of the Board of Directors with the urgency of action. This culminated in Monitor formally intervening in the Trust in November 2009, exercising its powers under section 52 of the 2006 Health Act. As a consequence of the regulatory intervention, Monitor removed Richard Bourne as chairman of the Trust and replaced him with Sir Peter Dixon as interim chair from 30 November 2009.' (AR0910:11)		

Case 131

East & North Hertfordshire NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Hertfordshire				
Population/Location Characteristics	At least 53,500 more houses being built in the areas served by the Trust by 2021; as the population grows and new communities are established, it is also projected that the numbers of babies born will rise. (AR0708:11) The Trust's catchment is a mixture of urban and rural areas in close proximity to London. The population is generally healthy and affluent compared to England averages, although there are some pockets of deprivation – most notably in Stevenage, Hatfield, Welwyn Garden City and Cheshunt. Over the past ten years, rates of death from all causes, early deaths from cancer and early deaths from heart disease and stroke have all improved and are generally similar to, or better than, the England average. The birth rate is close to the England average, with the Trust's core catchment population forecast to rise by 10.5% over the next ten years, along with a corresponding rise of 17.5% in the number of 45 to 74 year olds. Black and minority ethnic groups make up 5.1% of the population in east and north Hertfordshire. (AR0910:3)			Population Growth	The population determines the demand of hospital services
Population Served	south, east and north Hertfordshire, as well as parts of south Bedfordshire			Medium Size	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Staff	5000				
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	preparatory work to commence its application to become a NHS foundation trust. (AR0708:4)	Considerable progress has been made by the Trust in preparing to become a NHS foundation trust, and the Trust would undoubtedly have become one but for the need to obtain full agreement on the final phase of the hospital consolidation programme. (AR0910:5)			
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Fair	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Nick Carver. Nick was appointed as the Trust's chief executive in November 2002...Nick	Same		Stable	No change of CE during data collection period

	started his NHS career as a qualified registered nurse in 1982, before developing his interest in health service management.			
Culture and Strategy (From Annual Report Summary by CE & Chairman)				
Notes on T1 AR (06-07; 07-08)	'During 2007/08, the Trust faced and met three major challenges: delivering a firm financial footing; reducing healthcare-associated infections; and achieving the national 18-weeks waiting time standards.' (AR0708:7) 'While good leadership – both operational and clinical – plays an important part, principally its down to our highly dedicated and hard working staff who seek on a daily basis to ensure that their patients get the best possible care within the resources available. Last year was one of much change, disruption and uncertainty for our staff and volunteers, which makes their achievement all the more remarkable.' (AR0708:6) 'the Trust has set itself the challenge to be rated good on quality of clinical services when the results for the 2008/09 year are published towards the end of 2009. It will not be possible for us to be rated good on use of resources until 2009/10 annual health check results are published, as the rules require the achievement of three consecutive years of breakeven or surplus for such a rating to be awarded. (AR0708:8)		Change and uncertainty	A challenging period that has created much change, disruption and uncertainty. The Trust has faced both performance and financial issues.
Notes on AR T2 (08-09; 09-10)	T2: 'Our strategic plan has been the driving force behind the Trust's transformation from a failing organisation to one that is amongst the health service's better performers today.(AR0910:6)		Success, recovery	A 'transformation'
Process				
Service Improvement Approach	T2: Ward audits examining *measures of care* are now undertaken routinely; Patient testimonials have been initiated to understand experiences of the whole journey of care. (AR0910:35)		T2: PW only	No reference to Lean other than PW.
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: PW implemented in half Trust's wards to date. Productive Theatre initiative has started (AR0910:35)			
Content				
Areas identified as under transformation	Wards			
Interpretation of Lean implementation	T1: None T2: PW only		T1: None T2: PW only	
Other Notes	07/08 was the first time in the Trust's history that a surplus occurred without the use of special, one-off measures. The East and North Hertfordshire NHS Trust was created in April 2000, following the merger of two former NHS trusts serving the east and north Hertfordshire areas.			

Case 132

Hinchingbrooke Health Care NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Huntingdon				
Population/Location Characteristics	It is estimated that the population will increase by 9% by 2021 compared with 22% for the wider Cambridge and Peterborough region. Although the scale of increase in number will be less, the local population will become more elderly and therefore likely to be increasingly dependent on healthcare; with those over 65 increasing by 72% by 2021. (AR0910:4)			Population Growth	The population determines the demand of hospital services
Staff	1300			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	161,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Weak	Fair		
Leadership					
Chief Executive (name and background)	T1	T2			
	Mark Millar since April 2007 on a 2 yr temp contract	Dr Gerry McSorley joined Hinchingbrooke in May 2010. He has many years of experience in health care management and leadership… he has substantial experience in leading large acute trusts. Most recently, he was the Programme Director at the National Leadership Council and Senior Leadership Fellow at the NHS Institute for Innovation and Improvement.		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	The Trust has a historic deficit, 'which clearly we are unable to re-pay from our own resources, remains and this was the reason we were the subject of a public interest report issued in March 2008 by PwC, our external auditors during 2006/07.' (AR0708:4)			Crisis, finance	A historic deficit is causing problems for the trust leading to a 'public interest report'
Notes on AR T2 (08-09; 09-10)	'This has been another year of change and uncertainty at Hinchingbrooke, but now, as the Hinchingbrooke Next Steps process gathers pace,			Change and uncertainty	Some optimism but still talk of uncertainty and a difficult

	there is hope that an outcome is on the horizon. Hinchingbrooke is in a unique position as it goes through the Hinchingbrooke Next Steps franchise process, led by NHS East of England, which has been progressing since the public consultation of February 2007. The process has had the effect of being a "cloud" hanging over the organisation, with the future being unknown and subsequent difficulties regarding recruitment of staff of all grades. However, the Next Steps process is now close to a conclusion with a date to start the franchise set for the spring of 2011. ' (AR0910:9) This past year has been challenging for the Trust, but overall performance has been good against the main indicators.'		operating environment and culture
Process			
Service Improvement Approach	Significant cost improvement programme in place amounting to a cost of over £6M. (AR0708) The trust has established the Sustainable Hospital Programme with key projects covering the redesign of patient flow and elimination of duplication… adopting NHS innovations to reduce waste and maximise time for clinical care. 'The Trust is adopting a "lean thinking" approach to improving services for patients and staff alike. Lean is based on the idea that everything that we do is based on a series of steps, involving many people, and that by empowering people involved in these steps we can help to reduce unnecessary waste and duplication.' (AR0708:7)	Programme	Lean thinking approach to improving services via a programme of key projects
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: '...adopting lean thinking approach to improving services for patients and staff alike. Lean is being implemented through training and by supporting staff to make changes to the way that they work, based on their valuable knowledge and experience. The Sustainable Hospital Programme office has been running workshops to help staff understand and apply the tools and techniques that can put their ideas into practice - in a way that is both sustainable and empowering' (AR0708:7) T2: Implementing RTTC to release nursing time to focus on more direct patient care - Implementation of „Know How You Are Doing" boards in some ward areas - Rolling out lean methodology across the Trust to enable continuous improvement of services take place - Patient involvement in pathway redesign work and the development of our Strategy (AR0910:6)	T1: Programme T2: Programme	Clear evidence of integrating Lean thinking with operations including training in T1 followed by a roll out of projects across the trust.
Content			
Areas identified as under transformation	Lean is cited as a key feature in all projects across the Trust AR0910:32 states: 'The Trust continues to invest in training staff in lean principles and to improve productivity and efficiency. Process re-design projects have been started in support services, such as medical records, purchasing, materials management and porters… The focus for next year will be to continue with key re-design projects across the		Lean seems to be spreading across the trust and is gradually becoming the way things are done. No discussion of Lean as a culture of continuous improvement yet but the 'programme'

	whole of the clinical and support services, together with a focus in reducing waste and paper usage through the introduction of more electronic systems.'		approach seems to be progressing.
Interpretation of Lean implementation	T1: Programme (T1) T2: Programme (T2)		
Other Notes			

Case 133

Ipswich hospital NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of Engalnd			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	East Suffolk				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Andrew Reed, joined Ipswich Hospital in July 2005, having previously been Chief Executive of Bedford Hospital NHS Trust	Same		Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	We were one of the first Trusts in the Eastern Region this year to be awarded the prestigious NHS award, called Practice Plus in Improving Working Lives which recognises excellence in people management. Regular forums are also held for staff to debate issues of importance and interest with senior executives and the Joint Consultative / Negotiating Group (JCNG) which meets monthly in September 2006, the Trust Board approved a financial recovery plan and we have been in the process of financial turnaround since then following a large and unexpected deficit at the end of the previous financial year. I am delighted to report that we ended the 2006/07 financial year with an in-year surplus of about £1m. Our financial achievements were mirrored with fine operational performance. (AR0607:2)			Success, recovery	Successfully recovered from previous years deficit
Notes on AR T2 (08-09; 09-10)	Financially, we achieved a £4.6 m surplus at the end of the surplus and a further reduction in our accumulated debt. (AR0809:9)			Success, recovery	Similar to T1 but this time the AR talks about change in a

	One of the largest general hospitals in the NHS East of England Strategic Health Authority. Ipswich Hospital has a strong future as one of East Anglia's most prominent and respected hospitals, but to secure this future we must plan to accelerate and embrace change, so that we continue to offer our patients and our healthcare partners better information and even better services to make us their preferred choice of hospital.(AP09:5)		positive manner as a strategy for improvement
Process			
Service Improvement Approach	T1 and T2: Reducing debt is priority	No Lean	No articulation of Lean in AR or on website
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: PW	No Lean	
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: None T2: PW	T1: No Lean T2: PW only	No articulation of Lean in AR or on website
Other Notes			

Case 134

Construct	James Paget University Hospitals NHS Foundation Trust Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Norfolk; Great Yarmouth and Waveney				
Population/Location Characteristics	high level of health inequality across Great Yarmouth and Waveney: • shorter life expectancy than other areas of England • significant proportion of the population aged over 75 • high rates of limiting long-term illness and disability • high rates of teenage pregnancy • high smoking rates and obesity estimates greater than the national average.			Deprived area	The population determines the demand of hospital services
Staff	3367			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	220,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st August 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Adrian Pennington, began as CE 1st April 2007, Joined the Trust from his role as Chief Officer of the national Heart Improvement Programme.	Wendy Slaney - a former dental surgeon and has held a number of clinical and management posts in the NHS. She has been interim Chief Executive at the Trust on two occasions – most recently for the past year – and is well known to many patients and staff. 'Wendy has a clear sense of direction and a passion for delivering good patient services and she has been at the centre of innovation and change throughout her career.' (AR0910:6)		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	The difficult operating environment continued in 2006/07, but the Trust still achieved a surplus of £2.2million against a target of £1.8m. The Trust's			Successful performance	

	performance against national targets to date is strong (06/07:5)		
Notes on AR T2 (08-09; 09-10)	The Trust is committed to continuous quality improvement and always tries to put the patient at the centre of everything we do…The initiative and innovation of our staff will be vital in the future as the national economic climate means the NHS is going to see funding restrictions compared to recent years. Changes to working patterns and services are inevitable. The Trust has put a stringent cost savings programme in place, which will be supported by major transformational work, to significantly change the way we deliver care whilst retaining our strongly-held values, such as putting patients first. (AR0910:8)	Finance focus	Strategy focused on cost saving, transformation work is driven by cost saving
Process			
Service Improvement Approach	T1: No Lean T2: A cost savings programme	No Lean	
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: PW - AR0910 details releasing time to care	PW	
Content			
Areas identified as under transformation			
Interpretation of Lean implementation	T1: No Lean T2: PW	T1: No Lean T2: PW	
Other Notes	Trust Chairman John Hemming is experienced in turning around businesses, his portfolio included market analysis, lean manufacturing and product design and appropriate organisational change		

Case 135

Luton and Dunstable Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Luton and Dunstable				
Population/Location Characteristics	High levels of deprivation, 20% ethnic minority. The population served by the Hospital is the most culturally diverse in the East of England. Luton also has several areas of high social deprivation and, consequently, health needs are higher than in other parts of Bedfordshire. Local health care service changes, an expanding population and house building programmes will increase our catchment population from 300,000 towards 500,000 over the next ten years, and we will need to focus on providing more specialist services as we strive to meet their needs.			Deprivation and population growth	The population determines the demand of hospital services
Staff	3400			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	300,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st August 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Fair	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Good	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	Stephen Ramsden since 1998	Pauline Philip - joined the L&D as Chief Executive on July 1st 2010. 'With a strong clinical background, together with a number of highly successful Chief Executive positions, she brings a unique combination of skills and experience to the Trust.'		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	The L&D's Transformational Story sets out our history of continuous improvement and our ambition to lead the NHS in patient safety. It provides the 'road map' that will guide the organisation over the next five years and substantial effort is being placed in engaging staff in the story, identifying their contribution and clarifying the actions that will			Successful Performance	No issues highlighted

	be required if we are to be successful		
Notes on AR T2 (08-09; 09-10)	'In 2009/2010 the L&D has been rated as the best Acute Care Hospital Trust in the East of England.' (Source: http://www.ldh.nhs.uk/LD_Today.htm 6/9/10) 'The Luton and Dunstable Hospital NHS Foundation Trust (L&D) is a high performing organisation that has built a national, and growing international reputation for improving patient safety, as well as for innovation and achievement.' (Source:AR0910:3) The departing CEO Stephen Ramsden of 12 years places a personal msg in the AR encapsulating the culture of the Trust with a strong emphasis on patient safety: 'The transformation of the L&D into a hospital that is known internationally for its work on patient safety has been something I am particularly proud of.' (AR0910:7)	Successful performance	No issues highlighted
Process			
Service Improvement Approach	T1: a major redesign process to improve the way emergency and short stay patients are treated at the Hospital. The aim of the redesign work was to ensure that every patient gets the right care, at the right time, by the right person, in the right setting the first time. (AR0708:8) T1: Improving Patient Experience Programme incorporates PW as a core element T2: The development of the Transformation of the L&D QIPP Plan (2009/10 – 2013/14) was an important stage of this years Trust's planning programme in preparation for the financial challenges in the coming years. T2: Leadership Academy programme	T1: Few projects T2: Few projects	Programmes do echo Lean and probably incorporate Lean but the text does not specifically articulate lean as a methodology thus a few projects status should be conferred.
Elements of Lean? (RIEs, PW, waste elimination etc)	PW; the Trust is an NHSI Rapid Improvement Site for the East of England SHA.		
Content			
Areas identified as under transformation	Wards, emergency and short stay redesign		
Interpretation of Lean implementation	T1: Few projects T2: Few projects	T1: Few projects T2: Few projects	
Other Notes	Ninth successive year of financial surplus. (AR0708:3), now 11 (AR:0910)		

Case 136

Mid Essex Hospital Services NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Essex: Chelmsford, Maldon and Witham				
Population/Location Characteristics	Affluent, 98% white ethnic origin. The majority of the mid Essex population are aged between 16 to 64 years old. Life expectancy in mid Essex is significantly higher than the national average and the catchment area has a relatively high proportion of older residents.			Affluent	The population determines the demand of hospital services
Staff	4000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	350,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Excellent		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Weak		
Leadership					
Chief Executive (name and background)	T1	T2			
	Andrew Pike	Professor Graham Ramsay, Graham joined the Trust as Chief Executive on 1 September 2009		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'2006/07 was a year of significant change for the Trust during which the organisation underwent a period of refocus. It is disappointing that the year end figures for 2006/07 show a deficit of £2.6m, which is due to a change in the accounting in respect of land sales, but this is a significant improvement on the previous year which resulted in a deficit of £11.2m…To help focus the organisation to ensure the savings target was achieved the Board appointed a Turnaround Director in October 2006. The purpose of turnaround was to address the financial deficit within the organisation and to develop a sustainable recovery plan. This proved very successful with savings of over £10m being achieved during 2006/07…Despite all of the challenges the organisation faced during the year it was our most successful year to date in terms of performance, as it was the first time that we met all of the operational performance targets set by the Government.' (AR0607:3)			Success, recovery	Despite the financial troubles, the statement does suggest that the trust has been successful in addressing the financial deficit

Notes on AR T2 (08-09; 09-10)	'For the third year running the Trust has received the highest rating of excellent for the quality of services provided to patients and has improved from fair to good for its financial management in the 2008/09 annual health check. This rating puts the Trust in the top 22% of Trust's nationally for the quality of services and in the top two acute and specialist Trusts in the East of England region.' (Source: http://www.meht.nhs.uk/about-us/annual-health-check/ accessed 4/9/10) Whilst we have made significant progress this year, our financial challenges and changes to the Trust Board have meant we have had to put some of our plans on hold. The Board decided to defer our decision to go forward to Foundation Trust (FT) status until at least the new financial year, for two main reasons. Firstly, I took over as Chief Executive in September 2009, following the departure of Ruth May in June 2009. Our Chair, Mike Malone-Lee, left in May 2009 and we have had Mike Adams as our interim Chair in place since then. We need some stability at senior management level to take the organisation forward to FT status. Secondly, we had to save £13m this year to balance the budget. Everyone is aware that the economic situation for the country is difficult and the NHS is certainly not immune from it. We are currently working with the NHS East of England to agree a new FT trajectory. Obtaining FT status remains at the core of the Trust's organisational strategy…We put a financial recovery plan in place and some elements of this were delivered. (AR0910:6)	Success, recovery	Again elements of success mixed with some uncertainty
Process			
Service Improvement Approach	T2: The Trust Board of Directors recognises that the Quality, Innovation, Productivity and Prevention (QIPP) agenda sits well with its strategic aim to improve clinical productivity and efficiencies in order to reduce waste and drive down cost, creating a streamlined business model that delivers a high quality healthcare service.	External driver of service improvement	QIPP is national healthcare strategy
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: The Trust has been involved in the productive ward initiative since January 2009		
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1: None T2: PW only	T1: None T2: PW only	No articulation of Lean but PW is referred to in T2.
Other Notes			

Case 137

Norfolk and Norwich University Hospitals Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Norfolk				
Population/Location Characteristics	Small City				The population determines the demand of hospital services
Staff	5700			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	600,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st May 2008				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Paul Forden, responsible for the overall management of the Trust, and the Trust's Accounting Officer. Paul was appointed as Chief Executive of the Norfolk and Norwich University Hospital NHS Trust in October 2004.	Anna Dugdale		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR	From the Chairman: 'I am sometimes asked what I think is the main challenge facing our two hospitals and, at the risk of over-simplification, my answer is always the same: we need to balance demand for services with capacity. We have therefore commenced a strategic review to assess our bed and theatre capacity…I started this review by stressing the overriding importance of patient care. I want to end by mentioning money. The two are closely linked. We can only provide high-quality care if we use our available finances efficiently…Quality and efficiency are two sides of the same coin' (AR0708:6). 'Putting the patient at the heart of the NHS has been a road well travelled by this Trust in recent years.' (CE, AR0708:7)			Successful performance	No apparent overriding issues, but evidence that the CE believes the Trust to be patient focused.
Notes on AR T2	Between November and January we opened an			Performance	The trust experienced

	additional 54 beds to cope with the intense pressure on our services. However, the cancellations early in the autumn resulted in a growing number of patients waiting over 18 weeks for surgery. In December the Board agreed to focus on treating those patients who waited longest first to clear the 'backlog' of patients who had already waited more than 18 weeks. Our Governors have fully supported this decision as being in the best interests of our patients.	issues	performance issues during the year related to an unexpected surge in activity during Autumn.
Process			
Service Improvement Approach	'We rolled out a real time patient experience tracking system across all of our wards and clinical areas and we now capture the experience of over 1,000 patients every month, whilst they are in hospital. We are displaying these results prominently in public areas and using the results both to identify areas for improvement and recognise outstanding performance.' 'A major focus on improving the quality of care has been the Patient Flow Project addressing the admission process, flow through the hospital and the discharge process led by the Medical Director.' T2: - commissioned new staff development programmes – Lean Improvement Development Programme (LIDs) and Essential Business Skills with over 125 staff across all disciplines participating in these programmes so far T2: PW - the project was introduced on four showcase wards in April 2009. The rollout plan is four new wards to join the programme every 13 weeks.	T1: No Lean T2; PW only	T1: No reference of Lean methods T2; Lean training is mentioned in teh report but no Lean implementation appears to have taken place yet. Thus the trust appears to tentative to Lean but as they are also implementing PW then they are categorised PW.
Elements of Lean? (RIEs, PW, waste elimination etc)	PW - the project was introduced on four showcase wards in April 2009. The rollout plan is four new wards to join the programme every 13 weeks. (AR0809:12)	PW	
Content			
Areas identified as under transformation	Wards, pathways		
Interpretation of Lean implementation	T1:No Lean T2:PW	T1: No Lean T2: PW	
Other Notes			

Case 138

Peterborough and Stamford Hospitals NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Peterborough and Stamford				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population					
Trust Performance					
Foundation Trust Authorisation	T1		T2	FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st April 2004				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Fair	Weak	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1		T2		
	Nik Patten, since 26 February 2007. Nik was previously Director of Planning and Performance Improvement and Interim Deputy Chief Executive at Leeds Teaching Hospitals NHS Trust. He has 20 years' experience in the NHS and has held senior positions at South Tees Hospitals NHS Trust, the NHS Modernisation Agency of the Department of Health, George Eliot NHS Trust and Manor Hospital.		Same	Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'a new strategy and a vision for us to be *"a major healthcare provider in eastern England that is best for patients and great to work for."* (AR0708:8)' 'This year has seen some improvements in services for our patients. It has, however, also been a year of challenges in some key areas of performance…a large number of patients [377] were found who had been waiting more than 26 weeks for their elective inpatient or day case treatment. This has meant that much of the year has been spent clearing this backlog of patients by treating patients both within the Trust and by using external providers…On 16 October 2007, five twelve-hour trolley waits were declared…Intensive work has been undertaken to improve the patients' journey. This has			Performance issues	A number of performance challenges are noted.

	resulted in considerably improved performance from January 2008.' (AR0708:10) Other performance issues are discussed by the CE in his statement.		
Notes on AR T2 (09-10)	'One area where improvement is required is the need to plan strategically to ensure national and local targets are continually reached and exceeded. On some occasions we have been unable to meet waiting time targets and I apologise to patients who did not receive care within national timescales. On a positive note, we have improved our forward scheduling and planning as well as background administrative processes to contribute towards the excellent patient care we want our patients to receive… We also launched our Trust values this year, Caring, Creative, Community, and have been working to ensure that we practice these for both patients and staff. Derived from workshops involving a large cross-section of our staff, our values should guide all our actions' (AR0910:11)	Performance issues	The trust still appears to be plagued by performance issues however, trust strategy is being formulated in collaboration with staff and operational needs
Process			
Service Improvement Approach	T2: The Service Improvement Team leads a programme which reviews and reorganises services with operational teams to meet the needs of our patients. This ensures they receive the most streamlined and efficient service that we can offer minimising the time patients spend at our hospitals and that we make the best use of our money. (Source: http://www.peterboroughhospitals.co.uk/page/?title=Service+Improvement+Team&pid=12643 6/9/10) T2: During the year the Trust continued a programme management approach named Staying Fit to ensure that projects identified and introduced would drive improvements in quality and productivity, deliver to timescale and that opportunities for sharing experience and learning take place. (AR0910:36) T2: Further progress has been made with clinical business unit and board level development. During 2009/10 approximately 10 per cent of staff (300 people) have been trained in the use of the 'lean methodology'. This work complements progress made in rolling out 'Productive Ward' to our ward areas and 'Productive Theatre' is now underway. In addition, progress is being made in terms of Electronic Rostering implementation which will be completed in 2010/11. All employment policies were reviewed this year, and work will continue to agree and implement a revised set of employment policies, following consultation	T1; Few projects T2: Programme	T1; The trust is continuing a programme approach of which echoes the principles of Lean thinking. In T1 there is evidence of a Lean project (see 'content') T2; Lean methodology is explicitly referenced in the context of a 'programme' approach which also involves training.
Elements of Lean? (RIEs, PW, waste elimination etc)			
Content			
Areas identified as under transformation	T1: Lean pharmacy project identified (http://www.wcihealthcare.com/Repository/Case+Studies/Improving+the+Pharmacy+Services+at+Peterborough.htm)		A Lean project identified in T1 and training in Lean thinking is being rolled out across the organisation. Lean appears to have escalated into a formalised approach during T2.

Interpretation of Lean implementation	T1: Few projects T2: Programme	T1: Few projects T2: Programme	
Other Notes			

Case 139

Princess Alexandra NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Essex: Gtr London				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	3000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	258,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Good	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Fair	Good	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Chris Pocklington, Appointed 1st March 2007.	Jane Herbert (Interim)		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	The Trust has made major progress in hitting targets and achieving its performance objectives this year. This progress has been made during a year when the ongoing need to control spending required us to make some tough decisions. This approach has paid dividends and we are able to report, for the first time in recent history, a balanced position for 2006/07 and are also forecasting a stable financial position for 2007/08.			Success, recovery	Improved performance and financial stability 'balance'
Notes on AR T2 (08-09; 09-10)	Our vision to enhance and develop local healthcare services has been influenced by an ever-changing social, political and technological environment, and increasing government standards. Since the devolution of operational responsibility to the four new clinical business units (1 April 2008), the flatter management structure has given clinicians more opportunity to work with managers to influence service development plans. (AR0809:1) The Trust has set a budget plan for 2009/10 that predicts the delivery of a further surplus of £5.1 million. This will place the organisation in a strong position to become an NHS Foundation Trust. (AR0809:2)			Structural change	There has been a change in the management structure. The hospital is clearly aligning itself with its objective of becoming a FT.
Process					
Service Improvement	T2: Building on the Lean principles (the			T2: Systemic	Emphasis on training

Approach	elimination of waste within processes), the Trust has continued to implement projects that improve the efficiency and effectiveness of the organisation. A large number of staff have received master class training to help take the modules, associated with the Lean programme, forward. (Quality Accounts 09/10:13)		in order to take the lean programme forwards
Elements of Lean? (RIEs, PW, waste elimination etc)	T1: PAH claims to be 'one of the first trusts in the country to take Lean forward and show real results since its implementation (see p.17-19 AR0708) Lean Thinking has enabled the nursing and midwifery workforce to participate in a number of rapid improvement events including emergency ward standardisation (AR07:10) T2: Lean Thinking has delivered a real and recognised impact on patients and the quality of services provided at PAH. For instance, the creation of a new discharge lounge has been delivered along with the turnaround of referral letters from three weeks to 48 hours. Lots of standardisation	T1: Programme T2 Systemic	The Lean journey began in 2006/07 making them early adopters of the methodology. Evidence that the drive towards lean has been sustained and the impact of lean measured and recognised suggests that Lean has become more than a few projects or a programme
Content			
Areas identified as under transformation	One of the major successes (which was introduced in 2008/09) has been the Ward Standardisation project and this has since been rolled out across the organisation; benefits include improved safety of staff when working on a number of wards, due to the standardised layout		
Interpretation of Lean implementation	T1:Programme T2:Systemic	T1:Programme T2:Systemic	
Other Notes			

Case 140

Queen Elizabeth Hospital King's Lynn NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Norfolk				
Population/Location Characteristics	Largely rural. Pop'n profile has high proportion of elderly. In recent years significant growth has taken place amongst the various ethnic communities, principally from the Baltic area, Portugal and the Far East. A recent survey showed that there are now around 100 different ethnic languages being spoken in our catchment area, with principal languages being Russian, Polish, Portuguese and Chinese.			Elderly and ethnic diversity	The population determines the demand of hospital services
Staff	2454			Small	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	250,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Good	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Nerissa Vaughan, began March 2008			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	The key phrase for the year under review has been 'Foundation Trust'….This has been set against a background of a second year of our 'Turnaround' programme to reduce our deficit (Turnaround Two, as it became known).' (AR0708:8)			Finance focus	Reducing deficit is key priority
Notes on AR T2 (08-09; 09-10)	Patient safety has been a real focus during the year. We participated in the Leading Improvement Through Patient Safety programme, run by the Institute of Innovation, and have made significant investment in quality improvements in the hospital. These have included expanding the number of beds in the hospital, increasing the numbers of nurses we have on our wards and expanding our outpatients' accommodation. Overall, 2008-09 was a successful year for the QEH and puts us in a strong position for achieving Foundation Trust status in 2009-10. (AR00809:3)			Successful performance	The Trusts claims to be on target for FT status which suggests a transformation since T1
Process					

Service Improvement Approach	T2: Listening to 'patient stories' has been seen as an important opportunity for in-depth learning about a patients experience in hospital	Patient story	
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: Piloted PW (T2) before it was rolled out nationally … Further funding is given to 'roll out' the Productive Ward project in the hospital, helping staff to find ways of streamlining routine tasks, to give them more time to spend with patients. (AR0809:14)	T2: PW	
Content			
Areas identified as under transformation	T2: wards		
Interpretation of Lean implementation	T1:No Lean T2:PW	T1:No Lean T2:PW	
Other Notes			

Case 141

Southend University Hospital NHS Foundation Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Essex				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4161			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	330,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		FT1	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
	1st June 2006				
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Good	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Excellent	Excellent	Excellent		
Leadership					
Chief Executive (name and background)	T1	T2			
	John Gilham since November 2006			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	We made significant improvements in our performance ratings from the Healthcare Commission and hope to build on these next year. We continue to build on our reputation for furthering medicine through innovation and research and have been involved in a range of projects in areas including oncology, ophthalmology, rheumatology and critical care (AR0708)			Successful performance	No performance issues highlighted
Notes on AR T2 (08-09; 09-10)	A year of successes and challenges is detailed in Southend University Hospital's Annual Report and Accounts for 2009-2010. It was a year when the hospital gathered a number of national, regional and local awards and accolades in areas such as stroke, critical care, wound management and respiratory services. Chief executive, John Gilham, summed up the year: "There have been many high points which have served to enhance our reputation as a caring, forward-thinking hospital staffed by energetic, motivated and dedicated staff. "Looking ahead, the coming year will undoubtedly bring new pressures but I look forward to the challenge and to working with staff, governors and local health partners to deliver excellent services to all who use Southend University Hospital."			Successful performance	A strong stable culture; no performance issues highlighted.

	'This culture of striving for excellence has been illustrated by a number of local, regional and national awards which our staff have gathered during the year.' (AR0910:7)		
Process			
Service Improvement Approach	T1: In 2007 we established an enlarged service improvement team to take forward the huge agenda in this area. In 2007 the focus was on improving access and flow in the Trust's diagnostic departments to help assist us in meeting our 18-week target. During 2008 we have even greater ambitions with key projects being undertaken on the acute/emergency patient pathway, elective orthopaedics, outpatients and ward organisation. Evidence of a 'Lean Team' in the minutes of a Board meeting dated 16th Sept 2008. Evidence of Unipart's involvement with the Trust for the period 08/09: 'To embed sustainability more progress needs to be made on getting the systems to work smarter rather than harder. To support this work was commenced with Unipart Expert Practices during the final part of 2008/9 to assist the Trust in putting in place more effective and efficient systems based on LEAN systems of working. I am pleased to report that arrangements are now in place to continue this work through 2009/10 in support of establishing improved sustainable systems.' (Minutes of Meeting dated 23rd April 2009) T2; 'In 2009/10 the Trust commenced a programme of work known as 'Southend Excellence' as its underlying quality strategy. The purpose of this programme is to bring about improvement across a range of areas including patient safety, patient pathway efficiency and patient experience, thereby enabling the Trust to provide those who use our facilities a 'caring, reliable, safe and effective service'. From available comparative information and data, such as that below produced by the East of England Health Observatory, the Trust is shown to be a very good healthcare organisation.' (AR0910:9)	T1: Programme T2: Programme	T1: Service improvement programme based on Lean. Management consultants brought in to help implement Lean across the trust. T2: Identification of 'Southend Excellence' suggests that the programme is en route to becoming a 'systemic' approach. However there is little evidence of widescale trust training.
Elements of Lean? (RIEs, PW, waste elimination etc)	Newsletter mentions 'waste' & productive ward. A number of Service improvement projects to improve flow – sounds like Lean (T1) Lots of evidence of Lean implementation in T2 revealed through search item 'Lean' on the Trust's website		
Content			
Areas identified as under transformation	Newsletter mentions 'waste' & productive ward. A number of Service improvement projects to improve flow – sounds like Lean (T1) Lots of evidence of Lean implementation in T2 revealed through search item 'Lean' on the Trust's website		
Interpretation of Lean implementation	T1: Programme T2:Programme	T1: Programme T2:Programme	Programme approach using external consultants and many connected projects. No evidence of staff training yet.

Case 142

West Hertfordshire Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	West Hertfordshire				
Population/Location Characteristics					The population determines the demand of hospital services
Staff	4000			Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	500,000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Weak	Fair	Fair		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Jan Filochowski, since Nov 2007			Stable	No change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	'It is clear that something really significant is happening in the Trust. In the last six months of 2007/08 we have seen a dramatic improvement in performance against national standards, significant improvements in our financial position and a fall in waiting times. These changes, coupled with very big changes in how services are to be delivered in the latter part of 2008, suggest that the Trust is using all of its resources much better than previously, with notable improvements in quality and productivity.' (AR0708:4)			Success, recovery	Significant improvements in performance.
Notes on AR T2 (08-09; 09-10)	'As we moved in to 2009/10, there was an undeniable level of optimism in the Trust. Performance against all national targets had been sustained and we were now compared to some of the best hospitals in the country. We had established a robust and stable financial position, producing a surplus for the third year running, meaning that the Trust has cleared its historical financial debt – a fantastic performance. The Trust rose from being rated by the Healthcare Commission (HCC) as 'Weak' in 2005/06 and 2006/07, to Fair in 2007/08 and Good in 2008/09,… our rate of improvement has been sustained and we could be rated as good or even excellent for 2009/10.'			Successful performance	No performance issues highlighted.
Process					

Service Improvement Approach	T1: 'Jan Filochowski (CEO) joined the Trust at the beginning of November with the task of making basic performance improvements for the last five months of 2007/08 and to continue to develop the short to medium term priorities. The Trust's focus therefore changed from November [2007] when the emphasis was on getting the basics right. From thinking that we may have already failed against the Healthcare Commisson targets for 2007/08, we now think it is likely that we will be awarded a 'Fair' on use of resources and a 'Fair' on quality of services when the results are announced in October 2008. This is a rapid advance in a relatively short time and will need to be maintained and further improved.' (AR0708:4)	T1: No Lean	No reference to Lean methodology
Elements of Lean? (RIEs, PW, waste elimination etc)	T2: PW introduced in 2009 and will be rolled out across the organisation in 2010/11 (AR0910:16) T2: In 2010/11 we need to continue to evolve - ensuring we are 'lean' in our approach in order to ensure that our cost base is appropriately geared to the activity we deliver. Integral to our approach will be our Quality Innovation Productivity and Prevention (QIPP) programme - driving up quality whilst improving productivity.	T2: PW only	PW is used to a specific end and Lean is mentioned in terms of stripping out cost – Toolbox approach
Content			
Areas identified as under transformation	Wards		
Interpretation of Lean implementation	T1:No Lean T2:PW only	T1:No Lean T2:PW only	
Other Notes	The Trust has turned a £11.4m deficit into a surplus of £2.5 million. 'The West Hertfordshire Hospitals NHS Trust was 'highly commended' in the finals of the prestigious Acute Healthcare Organisation of the Year category in the recent Health Service Journal (HSJ) national awards. The Acute Organisation of the Year award is based on excellent performance across the whole organisation with clear evidence of real change. The Trust needed to show a joined-up organisation on a journey of continued and sustained improvement- not just a few pockets of excellence. The Trust proved that it was well managed, with professional and committed staff and demonstrated that it was an organisation with an energetic 'can do' culture. ' (Source: http://www.westhertshospitals.nhs.uk/news/2009/nov/trust_recognised_nationally.asp posted 4th Dec 2009, accessed 6th Sept 2010.		Evidence that despite 'No Lean' hospitals are capable of 'real change'. The philosophy of joined up, continued and sustained improvement was key.

Case 143

West Suffolk Hospitals NHS Trust					
Construct	Data Collected			Categorical interpretation	Rationale
Context (external)					
SHA	East of England			EE	
Context (Internal)					
Physical Attributes, Structure					
Area Served	Serves an area of approximately 600 square miles which extends to Thetford in the north, Sudbury in the south, Newmarket to the west and Stowmarket to the east				
Population/Location Characteristics	Large rural area			Rural	The population determines the demand of hospital services
Staff				Medium	Size measured by number of FTE staff: <2500 = Small; 2501-5999 = Medium 6000+ = Large
Catchment Population	275000				
Trust Performance					
Foundation Trust Authorisation	T1	T2		No	FT status is awarded after rigorous assessment by independent regulator Monitor and confers greater operational and financial freedom
Quality of Service (CQC)	2006/07	2007/08	2008/09		Performance not categorised
	Excellent	Excellent	Good		
Use of Resources (CQC)	2006/07	2007/08	2008/09		
	Weak	Fair	Good		
Leadership					
Chief Executive (name and background)	T1	T2			
	Chris Brown	Stephen Graves, May 2010		Change	Change of CE during data collection period
Culture and Strategy (From Annual Report Summary by CE & Chairman)					
Notes on T1 AR (06-07; 07-08)	We set ourselves a challenging agenda over the past year that required further demanding performance improvements, building on the achievements made in 2006/07 and establishing plans to further develop services to our patients. Our dedicated staff have faced those challenges with energy and zeal making last year a very successful one for the Trust, which in turn has led to real benefits for patients. The Trust achieved a great deal during 2007/08 and we have continued to improve both organisational performance and services to patients. We now have the shortest ever waiting times for inpatients, day cases, outpatients and diagnostics, reducing the total patient pathway from a maximum of 33 weeks in April 2007 to a maximum of 18 weeks in April 2008 in the majority of cases... A further significant improvement was made in our financial position during the last year. We achieved some £4.7m savings through the implementation of our cost releasing efficiency savings (CRES) and a surplus of some £2.6m. These financial achievements, along with an 'Excellent' Healthcare Commission rating for service quality puts the Trust in a strong position			Success, recovery	Significant improvements in performance and finance

	for the future, including our application for NHS Foundation Trust status being made during 2008/09		
Notes on AR T2 (08-09; 09-10)	The year 2009/10 will see the Trust move into Phase Three of its long-term Corporate Development Programme. Phase Three, the main focus of this Annual Plan, will see the Trust build on past successes and undertake a sustained period of transformation. The latter will enable the Trust to take advantage of the changing health care market and help the organisation prepare for the forecasted reduction in public spending from 2010/11 onwards as a result of the current poor economic climate. The Trust will also aim to achieve Foundation Trust status during the year which is seen as key to the organisation's future development. (AP2009:1)	Successful performance	Emphasis on continued transformation, no performance issues highlighted.
Process			
Service Improvement Approach	T1: The Trust has commissioned a consultancy organisation (SIMPLER) to provide employees with training in 'Lean Principles' and an appreciation of Lean tools and techniques. SIMPLER has given the Trust practical experience and helped develop in house capability and confidence in the Lean methodology by facilitating a number of service improvement T1: Trust staff have been exposed to and acquired expertise in Lean thinking through the implementation of the NHS Institute's Productive Ward programme, which started in October 2008 T2: Over the next five years, the goal is for all clinical service specialties, patient care pathways, end-to-end patient journeys, hospital wards & theatres, back office functions, operational directorates, and organisational groups to be scheduled to undergo one or more 'Lean' reviews. Major improvements will be sought in the three dimensions of service quality: Patient Safety, Clinical Outcomes and Patient Experience. T2: In April 2009 the Trust appointed a Transformation Programme Manager. The Transformation Programme will: · significantly improve efficiency · productivity and cost reduction · while ensuring high quality outcomes for patients (AP09:3) T2: More than ever before, quality has been the driving force behind activities during 2009/10. Starting the year with the launch of our Patients First Programme, when we asked patients and staff what quality meant to them. The response was clear: our patients should always feel safe, feel cared for and feel confident in their treatment. We listened and now have in place ten Patients First standards to help all of us to consistently deliver this experience.	T1: Few projects T2: Programme	The trust has commissioned external management consultants to help conduct a few projects based on Lean methodology. T2: There is clear evidence that the Lean projects have become more coordinated and embraced as part of a 'transformation programme'
Content			

Areas identified as under transformation	Projects include: • AR diagnostic staff got together to try to find ways of tackling the longer waiting list. As a result, they simplified the process through which people were referred for their echocardiogram and changed the scheduling of inpatient appointments from an informal arrangement to a more structured approach, which then allowed more patients to be seen within the same period of time. They also worked hard to ensure that everyone involved in the care of the patient adhered to the same plan. • A new Acute Rehabilitation & Discharge Unit (F7/F8) was formed in Oct-09. Previously, only 30% of the patients on the F7 / F8 wards were suitable for rehabilitation. By establishing new criteria and protocols for patient admission the team was able to demonstrate a reduction in average lengths of stay from 25 to 15 days, and an increase in the number of discharges from 45 (in Nov-08) to 85 (in Nov-09). • The HR recruitment process has been streamlined to reduce the time from an employee resigning to recruiting a replacement. The team achieved a reduction in the average recruitment cycle from 14 to 8 weeks. • New national targets to receive stroke patients onto a dedicated unit within 4 hours and to spend 90% of their hospital stay on the ward are driving the need for operational changes to the Stroke Unit (G8). The team have set up a ring-fenced bed and defined a 'step-out' policy so new patients can be accommodated on the ward. A policy for out-of-hours admissions is under development. • Since the building of the Day Surgery Unit 20 years ago, patient numbers have grown significantly. The existing configuration of the Unit is constraining patient flow and service demands. A collaboration of surgeons, anaesthetists, nurses and managers are in the process of devising novel options to deliver single sex recovery areas, improved theatre utilisation and restrict interventions to those best suited to the DSU environment. • National changes to Breast Screening, to offer the service to a wider age range, will result in a demand increase of 30%. Work to identify how additional capacity can be provided without increasing cost is underway.		
Interpretation of Lean implementation	T1:Few projects T2:Programme	T1:Few projects T2:Programme	Many projects forming part of a programme based around Lean methodolgy